



Relationship between the symptoms of COPD and the quality of sexual life

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Abstract

Objective This study was conducted to assess the relationship between the symptoms experienced by women with COPD and the quality of their sexual life.

Method This study was designed as a descriptive cross-sectional study. The study was conducted at a hospital's chest diseases clinic located in the western of Turkey. The sample comprises 62 female patients hospitalized with diagnosis of COPD. A questionnaire form, the Medical Research Council Scale (MRCS), the COPD Assessment Test (CAT) and the Sexual Quality of Life-Female (SQOL-F) applied to the women with COPD. Frequency, percentage, mean, standard deviation, Kruskal Wallis test, Mann-Whitney U Test, correlation and regression analysis, were used for the data analysis process.

Findings The decrease in the education level of the participants who have any accompanying chronic disease, and experience symptoms during sexual intercourse negatively affects their quality of sexual life. The quality of sexual life decreases as age, duration of marriage and duration of illness increase ($p < 0.05$). The results of the linear regression analysis carried out to predict the quality of sexual life of women with COPD shown that the increase in mMRC and CAT significantly decreased the quality of sexual life. These variables explain 58% of the variance.

Conclusions The result of the study shown the sexual quality of life of women with COPD was impaired and COPD symptoms affect them.

Keywords Turkey · COPD · Women · Sexual life quality · Symptoms

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Introduction

Chronic obstructive pulmonary disease (COPD) is a preventable and treatable disease, and its prevalence and burden are increasing all over the world. Airway restriction is important in defining COPD, which has a high morbidity and mortality rate [1]. The disease is clinically characterized by progressive shortness of breath, cough, and expectoration. Other symptoms commonly experienced by individuals with COPD include dyspnea and fatigue [1]. The symptoms mentioned have serious effects on the general health and quality of life of women [2]. Due to these effects, individuals are unable to perform their daily life activities and isolate themselves from their environment [3], family dynamics deteriorate, social isolation and addiction levels [4] as well as the economic burden of the disease increase due to repeated hospitalizations [5, 6].

The sociological, economic, and psychological conditions play important roles during the disease. Therefore, the participation of different field experts such as physicians, nurses, social workers, and psychologists to alleviate the burden of the disease would be much better.

These symptoms also affect the sexual health of women with COPD. Women avoid sexual intercourse for fear of experiencing symptoms such as shortness of breath, cough and sputum, and therefore their sexual health deteriorates [7]. However, a healthy sex life is an essential part of human life. In a study, it was reported that the causes of COPD interrupting sexual intercourse were 91.9% dyspnea, 62% shortness of breath, and 54% fatigue [7]. In another study, the current sexual functions of patients with COPD and their sexual life after ventilation were compared, and it was seen that 35.8% of individuals had a more active sexual life after ventilation, and 46.3% did not experience any change [8].

Increasing the ability and independence of women to cope with COPD and improving their quality of life are one of the main goals of nursing care. Therefore, encouraging and guiding nurses to counsel women with COPD in their routine practice is an important issue. Additionally, if enough time is given to the nurses for this purpose, they would improve their education, knowledge, skills, and awareness. Talking about sexuality to women with COPD may lead nurses to think that patients will be upset, embarrassed, or refuse to talk about sexuality due to cultural pressure [7]. Thus, encouraging and educating the nurses about how to communicate successfully in such cases would be a better approach. As a result of the literature review, it has been observed that there is a limited number of studies examining sexual health, one of the basic human needs of women with COPD. Nurses who care for COPD patients would be more prepared for biopsychosocial holistic patient care by not ignoring the quality of sexual life. Based on all these, this study aimed to evaluate the relationship between the symptoms experienced by women with COPD and the quality of their sexual life. Even though the study mainly focuses on the field of nursing science, it will also contribute to the other related fields.

Research hypothesis

H1: Dyspnea affects the quality of sexual life in patients with COPD.

H2: The symptoms experienced by patients with COPD affect the quality of sexual life.

Materials and methods

The type of the study

This study was conducted in a descriptive cross-sectional type to determine the relationship between the symptoms experienced by women with COPD and the quality of their sexual life.

The Population and Sample of the study

The study consists of female patients with a diagnosis of COPD hospitalized in the Chest Diseases clinic of a hospital located in western Turkey, between March 2020 and February 2021.

Women aged 18 and over, with a history of COPD for 6 months or more, married and living with their spouse, sexually active, able to communicate verbally, and voluntarily accepting to participate in the study were included in the study.

According to the studies [9–17], the age of 65, mastectomy, total hysterectomy, being in the pregnancy or lactation period, being diagnosed with a psychiatric disease before the diagnosis of COPD, a spouse with sexual dysfunction can affect the physical and psychosocial aspects of sexual life. Thus, women in one of these situations were excluded from the study.

The sample of the study consists of patients who meet the research criteria and agree to participate in the study. The study was carried out on 62 COPD patients. The researchers collected the data by using the face-to-face interview technique. An interview took an average of 20–25 min to answer the questionnaires.

Data Collection Instruments

In the collection of the data, a questionnaire prepared in the light of the literature, Medical Research Council Scale (MRCs), COPD Assessment Test (CAT) and The Sexual Quality of Life-Female (SQOL-F) questionnaire were used.

Questionnaire form The form includes 17 questions in total. The questions are related to age, gender, education level, and disease duration of the patients.

Modified Medical Research Council (mMRC)

The original MRC ‘Medical Research Council’ dyspnea scale, which was first defined by Fletcher (1952) to evaluate the degree of dyspnea in patients, was later developed and used as the ‘‘Modified Medical Research Council’’ dyspnea scale (mMRC). While MRC is in the form of a rating between 1 and 5, scoring between 0 and 4 in mMRC is used to evaluate the perception of dyspnea. Both MRC and mMRC are similar scales based on various physical activities that cause shortness of breath, and patients mark the most appropriate degree describing respiratory distress out of five items.

No Dyspnea (0): I only experience shortness of breath during heavy exercise.

Mild Dyspnea (1): I only experience shortness of breath when walking fast on a flat road or when going up a slight hill.

Moderate Dyspnea (2): Because of my shortness of breath, I had to walk slower than my peers on the flat road or stop and rest from time to time.

Severe Dyspnea (3): After walking 100 m or a few minutes on a straight road, I stop to catch my breath.

Very Severe Dyspnea (4): I can't leave the house because of shortness of breath, or I have shortness of breath when getting dressed [18, 19].

COPD Assessment Test (CAT)

The CAT scale, which assesses the effects of COPD and deterioration in health status, consists of eight items questioning “cough, sputum, chest symptoms, fatigue, and confidence in leaving home”. The validity and reliability study of the scale in Turkey was carried out by Yorgancıoğlu et al. in 2012. In the study, the Cronbach alpha internal consistency coefficient was 0.91, the item-total score correlation coefficients were between 0.62 and 0.79, and the test-retest correlation coefficient was 0.96. In the same study, the construct validity of the scale was examined with explanatory factor analysis, and it was stated that it showed a single factor structure that explained 61.9% of the variance with factor loads ranging from 0.71 to 0.85 and an eigenvalue of 4.95. A minimum of 0 and a maximum of 40 points can be obtained from the scale. A high score indicates that the severity of COPD is high, and the health status is poor [20].

Sexual quality of life-female questionnaire (SQOL-F)

The validity and reliability of SQOL-F were studied by Tuğut N. and Gölbaşı Z. in 2009. The study was performed on women 18 years and older. Each item is expected to be answered considering the sexual life in the last four weeks. In the original of the scale, it is stated that each item can be scored between 1 and 6 or 0–5. In this study, the 1–6 score system (1 = completely agree, 2 = moderately agree, 3 = slightly agree, 4 = slightly disagree, 5 = moderately disagree, 6 = completely disagree) was used. Before the total score is calculated, the scores of items 1, 5, 9, 13, 18 must be reversed. The score range is between 18 and 108 in the 1–6 scoring system while it is 0–90 in the 0–5 scoring system. Whichever scoring system is used, the total score obtained from the scale is converted to 100-based. It is stated that the formula $(\text{raw score} - 18) \times 100 / 90$ should be used to convert the total scale score to 100-based. For example, the scale score converted to 100-based for an individual whose raw score total is 63 becomes $(63 - 18) \times 100 / 90 = 50$. A high score from the scale indicates that the quality of sexual life is good [9].

Analysis of the data

Data were evaluated using SPSS (Statistical Package for Social Science) software. In descriptive statistics, numbers and % were shown for variables determined by counting and mean \pm standard deviation for variables determined by measurement. Differences between two independent groups were analyzed using the Mann Whitney U Test, and differences between more than two independent groups were analyzed by Kruskal Wallis Analysis. In

case of a difference as a result of Kruskal Wallis Analysis, the double Mann Whitney U test was used to determine which group caused the difference, and Bonferroni correction was made according to the number of groups. Correlation and linear regression analysis were performed to determine the relationship between the scales. In the evaluation of the results obtained, 95% confidence interval and $p < 0.05$ error level were taken into consideration.

Ethical aspect of the study

Ethics committee permission (date: 26.12.2017, Decision: 17, No: 16) and institutional permissions from the hospitals where the research will be conducted were obtained from the Firat University Faculty of Medicine Clinical Research Ethics Committee in order to conduct the study. The aims of the study were explained to the patients who accepted to participate in the study, and their verbal and written consents were obtained. In the informed consent form, participation informed the study was on a voluntary basis, the answers would be kept confidential, and they are free to leave the study at any time.

Findings

The average age of the patients was 52.27 ± 9.85 , the mean BMI was 24.62 ± 2.71 , the average duration of marriage was 31.74 ± 11.50 (Table 1). It was determined that 50% of the patients were literate, 54.8% of them quit smoking, 85.5% of them did not drink alcohol, 59.7% of them were not competitively employed/non-working, 64.5% of them had less income than expenditure. The average duration of COPD diagnosis of the participants was 8.12 ± 4.24 . 59.7% of the participants had an additional disease accompanying COPD, 67.7% of them were educated about COPD, 61.3% of them went to health check-ups, 61.3% of them were not hospitalized, 64.5% of them experienced symptoms during sexual intercourse, and it was determined that the most common symptom experienced by 38.7% of them was dyspnea (Table 2).

There was a statistically significant difference between the education level of the participants and the SQOL-F. The difference is between literate and high school, and the quality of sexual life increases as the education level increases. Sexual quality of life mean score of those who did not have any accompanying chronic disease was higher and the difference between them was found to be statistically significant ($p < 0.05$). The quality of sexual life of those who did not experience symptoms during sexual intercourse was found to be higher

Table 1 Relationship between some variables, mMRC, CAT and SQOL-F

	X ± SD	SQOL-F	
		r	p
Age (Years)	52.27 ± 9.85	-0.611	0.000
BMI	24.62 ± 2.71	0.134	0.300
Duration of Marriage	31.74 ± 11.50	-0.617	0.000
Duration of Disease	8.12 ± 4.24	-0.573	0.000
mMRC	2.32 ± 1.35	-0.767	0.000
CAT	26.69 ± 8.93	-0.685	0.000
SQOL-F	46.63 ± 22.66	-	

Table 2 Distribution of Demographic and Disease-Related Data

			SQOL-F	
	N	%	X±SD	pvalue
Education				
Literate	31	50.0	38.56±21.74	0.006
Primary School	24	38.7	50.46±20.46	
High School and above	7	11.3	69.20±16.21	
Smoking				
Yes	23	37.1	54.92±23.47	0.332
I quit	34	54.8	40.68±20.71	
Never smoked	5	8.1	48.88±23.62	
Alcohol				
Yes	9	14.5	52.46±8.67	0.717
Never drank	53	85.5	45.63±24.16	
Occupation				
Retired	7	11.3	28.57±19.62	0.070
Not competitively employed/ non-working	37	59.7	45.64±23.36	
Worker	12	19.4	53.79±19.77	
Civil Servant	6	9.7	59.44±15.10	
Economic Level				
Low income	40	64.5	45.77±19.57	0.906
Equal Income to expenses	22	35.5	48.18±27.87	
Add. Chronic disease				
yes	37	59.7	33.00±17.20	0.000
no	25	40.3	66.80±12.31	
Controls				
yes	38	61.3	45.05±18.55	0.379
no	3	4.8	27.40±28.22	
partly	21	33.9	52.22±27.52	
Hospitalization				
Never	38	61.3	48.56±25.84	0.379
1 or 2 times	16	25.8	41.80±16.03	
3 times and more	8	12.9	47.08±17.92	
Symptom during intercourse				
yes	40	64.5	36.27±19.09	0.000
no	22	35.5	65.45±15.48	
Which symptom				
Shortness of breath	24	38.7	34.73±22.95	0.671
Fatigue	16	25.8	37.91±12.75	

than those who did and the difference between them was statistically significant ($p < 0.05$, Table 2).

The mean SQOL-F score was 46.63 ± 22.66 and the mean CAT score was 26.69 ± 8.93 , with a negative correlation between them ($p < 0.01$). The mean mMRC was 2.32 ± 1.35 , and a negative correlation was determined with SQOL-F (Fig. 1). A negative correlation was determined between age, duration of marriage, duration of illness and sexual quality of life ($p < 0.05$, Table 1).

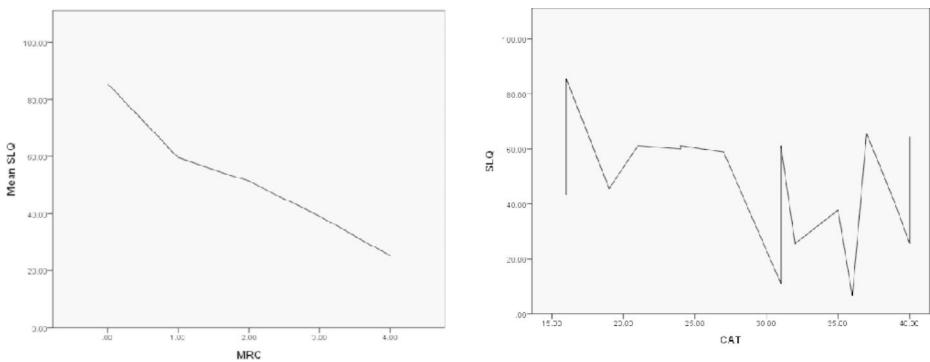


Fig. 1 Comparison of sexual quality of life of women with COPD with mMRC and CAT

According to the results of the linear regression analysis carried out to predict the quality of sexual life in women with COPD, it was observed that the increase in mMRC and CAT significantly decreased the quality of sexual life. These variables explain 58% of the variance (Table 3).

Discussion

Sexual health depends on both physical and mental health. Symptoms such as shortness of breath, cough and sputum in women with COPD affect both their physical health and their sexual health with the fear and anxiety caused by these symptoms [7, 10]. Since sexuality is affected by the social and cultural structure, nurses in the society may avoid talking about sexuality and think that the patients will be upset and embarrassed. In addition, patients in our country may refuse to talk about sexuality because of their cultural and religious beliefs. Sexual health should not be ignored in the interventions of healthcare professionals that can improve the quality of life of patients [11, 21–23].

In our study, the mean SQOL-F scale score of women with COPD was found to be low as 46.63 ± 22.66 . Studies also show that women with COPD have more sexual problems and have a lower quality of sexual life [10–14]. It can be said that this result is an expected result considering the physical and psychological effects of COPD on women.

In our study, it was determined that the Sexual Quality of Life increased as the education level increased. Some studies have reported sexual dysfunction decreases and the quality of sexual life increases as the level of education increases, hence, education level is an important risk factor for the development of sexual dysfunction [11, 15]. In this study, the low

Table 3 Prediction of mMRC and CAT as risk factors for sexual quality of life in women with COPD

	B	SE	β	t	p	F	p
(Constant)	77.844	6.995		11.129	0.000	42.187	0.000
CAT	-0.103	0.449	-0.041	-0.231	0.818		
MRC	-12.250	2.966	-0.731	-4.131	0.000		
	R=0.767	R ² =0.588	Adj=0.575				

*Multiple Linear regression analysis

quality of sexual life of patients with a low level of education can be explained by their lack of knowledge about sexuality, perceiving sexuality as taboo, accepting the situation with the understanding of weakness, not being comfortable to talk about sexuality and accepting it as learned concepts.

Sexual life quality mean score of those who did not have an accompanying chronic disease was found to be higher than those who did. Studies have revealed that the quality of life is negatively affected by chronic diseases [11, 15, 16, 18]. In addition, it has been reported that asthma and diseases such as COPD may lead to sexual limitations and this may affect the quality of life [10, 11, 14–16].

In our study, the Sexual Quality of Life was found to be higher for those who did not experience symptoms during sexual intercourse. The literature shows that COPD symptoms affect the Sexual Quality of Life. For example, the study by Dudaklı et al. determined that women with COPD experience more sexual problems than men and almost all individuals with COPD (96.2%) experience shortness of breath [10]. In a study, 91.9% of women with COPD had difficulty in breathing, 62% of them had shortness of breath, 54% of them fatigue, 97% of them had to choose specific sex positions, and 96.9% of them had decreased sexual performance. Therefore, it was reported that sexual quality of life is affected in women with COPD due to these symptoms [7]. In another study, it was observed that there was a 68% decrease in sexual appetite and a 60% decrease in sexual desire due to shortness of breath and fatigue [16]. The findings of this study show parallelism with the literature.

In our study, it was determined that the quality of sexual life decreased with increasing age. Studies have shown that sexual life and functions are negatively affected by increasing age [10, 11, 13, 15, 24]. It is known that as age increases, hormonal changes in individuals, decrease in the capacity of organ functions and physical disability cause an increase in sexual dysfunction [10]. However, the exact variables affecting the sexual life of women with COPD are not known, and planning more studies to determine them would be better.

In our study, it was determined that the quality of sexual life decreased as the duration of COPD diagnosis increased. As the duration of the disease increases, systemic and psychiatric complications pave the way for sexual dysfunction [11]. Studies in the literature also support our findings. It has been reported that the hormonal imbalance experienced with the increase in the duration of COPD diagnosis negatively affects sexuality [24]. In another study, it is stated that individuals with COPD experience more sexual dysfunction due to long disease duration and health care needs [11].

In addition, in our study, it was determined that dyspnea and CAT were important predictors of sexual quality of life. Our research shows that high dyspnea and CAT can have a negative impact on the quality of sexual life of women with COPD. Ibanez et al. reported that lung functions affect sexual health [25]. Borgmann et al. reported that as the severity of COPD increases, the disease and its burden worsen, sexuality is negatively affected, and partner dependence increases [26]. Reda et al. determined that the severity of asthma affects sexuality, and that 90% of asthmatic patients have sexual dysfunction and have a lower quality of life. In addition, in another study, it was reported that 60% of individuals with sexual activity needed to change their sexual lives due to their diseases (rhythm, frequency and position) [15, 16].

Limitations and future directions of the study

The limitations of the study were that the research was conducted in a single center and the questions in the forms were based on the statements of women. In addition, data collection during the Covid-19 pandemic process can be considered as another limitation, since administrative pandemic restrictions and the fear of Covid-19 prevented reaching more patients and expand the scope of study.

The neglected sexual quality of life should not be overlooked while giving care to patients since the quality of sexual life is affected by the symptoms experienced by COPD patients. In addition, it is recommended to include a control group in future studies and to increase the included parameters. The studies on how to educate and/or help the patients with COPD, especially those who have low-level education, can also be performed to increase their sexual quality of life.

Conclusions

The sexual quality of life of women with COPD is impaired and they are affected by COPD symptoms. These results highlight the need for psychological intervention for women with COPD, considering the importance of sexual quality of life. Therefore, health professionals should consider education, age, duration of marriage, duration of illness, and symptoms while addressing the impact of COPD on the quality of sexual life of women. A standard routine procedure is needed to openly discuss the factors and sexual problems that affect the sexuality of COPD patients. The mental status of patients should be evaluated by nurses and regular training programs should be organized about the management of the disease and mental issues. Sexual education and counseling conducted through press and media programs are also recommended. Spouse involvement in the sexual education and counseling should also be recommended. Sexual education and counseling should be extended not only to the parameters included in our study but also to all individuals. The participation of physicians, nurses, social workers, and psychologists in sexuality-related training will be beneficial.

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Declarations

Conflict of interest None.

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