



## Original Article

# The relationship between psychological resilience and life satisfaction in COPD patients

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### Abstract

**Objectives:** This study was carried out descriptively in order to determine the relationship between psychological resilience and life satisfaction in COPD.

**Methods:** The study was conducted with 114 COPD patients who were treated in a university hospital's respiratory services department between July 2016 and June 2017. Data were obtained with the "Personal Information Form", "Resilience Scale for Adults" and "Life Satisfaction Inventory". Descriptive statistics, independent samples t-test, Kruskal-Wallis Variance, Mann-Whitney U Test, Analysis of Variance and Analysis of Regression were used in the evaluation of data.

**Results:** The mean age of the patients was  $70.08 \pm 10.62$ , the majority (77.1%) were male, 80.6% were married, 86.8% were unemployed, 59.7% had graduated primary school. Total score of Resilience Scale for Adults was  $116.43 \pm 19.78$  and Life Satisfaction Inventory was  $18.70 \pm 6.72$ . A significant positive correlation was determined between resilience and life satisfaction. Psychological endurance predicts life satisfaction significantly and accounts for 65% of the total variance associated with psychological endurance.

**Conclusion:** According to the results of the study, the psychological endurance levels and life satisfaction of COPD patients were found to be high. When resilience of patients increased, life satisfaction was higher.

**Keywords:** COPD; life satisfaction; nursing; resilience.

### What is known on this subject?

- COPD changes the human organism through pathophysiological processes, but also affects mental balance, psychological resilience and quality of life. There are limited number of studies that objectively assess the relationship between psychological resilience and life satisfaction in COPD patients.

### What is the contribution of this paper?

- This study found that COPD patients had high levels of psychological resilience and life satisfaction. In addition, as the psychological resilience of COPD patients increases, their life satisfaction increases.

### What is its contribution to the practice?

- The importance of psychiatric nurses to evaluate and support COPD patients in order to improve their psychological resilience and life satisfaction in the treatment and care process. The assumption is that psychosocial adaptation of COPD patients will increase.

According to the data of Turkish Statistical Institute, respiratory diseases in Turkey are a major cause of loss of ability with a mortality rate of 11%.<sup>[1,2]</sup> Chronic Obstructive Pulmonary Disease (COPD), a progressive, significant respiratory disease requiring highly complex treatment, adversely affects individuals' interpersonal relationships, roles and responsibilities by causing permanent changes in activities of daily life and lifestyle.<sup>[3]</sup> COPD caused the deaths of more than 3 million people globally in 2012, which accounted for 6% of all deaths in the same year.<sup>[4]</sup> In addition to its pathophysiological symptoms such as dyspnea, fatigue and insomnia, COPD may cause various psychological problems such as depression and anxiety, which seriously affect the patients.<sup>[5-8]</sup> It is important for individuals to be psychologically resilient to cope with mental problems.

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In general, psychological resilience refers to a process of success or adaptation.<sup>[9]</sup> It is further defined as the ability to easily recover from chronic illness, depression, undesirable changes or undesirable conditions, and the adaptability to recover and return to the original state of well-being after tension or stress is experienced from unwanted situations.<sup>[10,11]</sup> Studies report that psychological resilience significantly affected patients who face various sources of stress during chronic diseases.<sup>[5,6,12–14]</sup>

Life satisfaction, an important component of psychological resilience, is defined as the situation which is obtained by comparing an individuals' life expectations and current experiences.<sup>[15]</sup> Life satisfaction, encompassing the whole life, is an important indicator of a person's mental state. Studies report that chronic diseases reduce life satisfaction by causing various physical limitations, stresses, conflicts and sudden adverse changes in life.<sup>[15–21]</sup> Arslan et al.<sup>[15]</sup> (2008) conducted a study of the cancer patients receiving chemotherapy, and have found a negative correlation between depression and life satisfaction, and reported that patients with higher depression had lower life satisfaction.

In addition to meeting physical needs, COPD patients should be provided with mental support. Nurses can contribute to increasing life satisfaction of COPD patients by ensuring their psychological well-being. This study may contribute to improving the understanding of biopsychosocial care in all healthcare professionals caring for COPD patients, and to understand the importance of psychology for helping patients feel physically well. No studies were found on psychological resilience and life satisfaction in COPD patients.

This study was carried out to determine the relationship between psychological resilience and life satisfaction in COPD patients.

## Materials and Method

The study population consisted of 114 COPD patients who were treated in a university hospital's respiratory services department. N sample selection method was used in the study. The sample consisted of 144 patients who were treated in respiratory services between July 2016 and June 2017, were open to communication and cooperation, had been diagnosed with COPD for at least 6 months, had no mental problems and agreed to participate in the study. Before starting to collect data, the Inonu University Malatya Clinical Trials Ethics Committee gave approval and an institutional permission was obtained from the research hospital where the study was conducted. The participants were informed about the purpose, duration and scope of the study and their verbal consents were obtained. Data were collected using the "Personal Information Form" which included sociodemographic information, the "Resilience Scale for Adults" and the "Life Satisfaction Inventory". Data were collected by the researchers using face-to-face interviews during weekday working hours. Each interview lasted 15–20 minutes.

Data were evaluated using descriptive statistics such as mean

and percent distribution. In addition, the variance analysis from parametric tests was used to evaluate the relationship between age and the scales. The independent samples t-test from parametric tests was used to evaluate the relationship between gender, family type, presence of another physical disease, duration of illness and the scales. The Mann-Whitney U test from non-parametric tests was used to evaluate the relationship between marital status, employment status, smoking status, perceived social support and the scales; and the Kruskal Wallis test from non-parametric tests was used to evaluate the relationship between education level and the scales. The regression analysis was used to compare the scales. *p* values <0.05 were considered statistically significant.

## Data Collection Tools

### Personal Information Form

The form consisted of seven questions about age, gender, marital status, education level, employment status, smoking status, and perceived social support from family and friends.

### Resilience Scale for Adults (RSA)

The Resilience Scale for Adults was developed by Friborg et al. (2003), and its Turkish reliability and validity study was conducted by Basım and Çetin (2011).<sup>[22]</sup> The scale consisted of a total of 33 items. It had a total of six dimensions: (1) perception of the self (items 1, 7, 13, 19, 28 and 31), (2) planned future (items 2, 8, 14 and 20), (3) social competence (items 4, 10, 16, 22, 25 and 29), (4) family cohesion (items 5, 11, 17, 23, 26 and 32), (5) social resources (items 6, 12, 18, 24, 27, 30 and 33), and (6) structured style (items 3, 9, 15 and 21). The Cronbach's alpha coefficient of the scale was found to be 0.86.<sup>[22]</sup> It was found to be 0.89 in this study.

### Life Satisfaction Inventory (LSI)

The Life Satisfaction Inventory was developed by Diener et al. (1985), and its Turkish reliability and validity study was conducted by Köker (1991).<sup>[23,24]</sup> The Cronbach's alpha coefficient of the scale ranged between 0.70–0.93. The 7-point Likert type scale used 5 items to measure the overall life satisfaction level. Each item was scored between 1 and 7. Higher scores on the scale indicated higher life satisfaction.<sup>[23,24]</sup> The Cronbach's alpha coefficient of the scale was found to be 0.91 in this study.

## Results

Out of the COPD patients, 47.2% were 62–76 years old, 77.1% were male, 80.6% were married, 64.6% were primary school graduates, 87.5% were unemployed, 84% were non-smokers, and 87.5% received social support from family and friends during the disease period (Table 1).

The COPD patients' RSA scores ranged between 54 and 165 with a total mean score of  $116.43 \pm 19.78$  and their LSI

**Table 1. Patients' introductory characteristics (n=144)**

Introductory characteristics	n	%
Age		
46–61	33	22.9
62–76	68	47.2
77–99	43	29.9
Gender		
Female	33	22.9
Male	111	77.1
Marital status		
Married	116	80.6
Single	4	2.8
Other	24	16.7
Education		
Illiterate	40	27.8
Primary education	93	64.6
High school	8	5.6
University	3	2.1
Employment status		
Employed	18	12.5
Unemployed	126	87.5
Smoking		
Yes	23	16.0
No	121	84.0
Perceived social support from family and friends		
Yes	126	87.5
No	18	12.5

**Table 2. Patients' RSA and LSI Scores**

	Minimum–Maximum	Mean±SD
YPDÖ	54–165	116.43±19.78
YDÖ	5–34	18.70±6.72

RSA: Resilience Scale for Adults; LSI: Life Satisfaction Inventory; SD: Standard deviation.

scores ranged between 5 and 34 with a total mean score of 18.70±6.72. The patients' total mean scores indicated that they had high psychological resilience and life satisfaction (Table 2).

There was a statistically significant difference between the patients' RSA total mean scores with respect to perceived social support from family and friends ( $p < 0.05$ ). According to the further analysis, the difference between the groups was caused by the patients with perceived social support from family and friends. No statistically significant difference was found between the patients' RSA total mean scores with respect to other introductory characteristics ( $p > 0.05$ , Table 3.1) There was a statistically significant difference between the patients' LSI total mean scores with respect to employment status ( $p < 0.05$ ). According to further analysis, the difference

**Table 3. Comparison of RSA and LSI total mean scores according to patients' introductory characteristics**

Introductory characteristics	Total RSA	Total LSI
Age		
46–61	117.81±19.18	18.69±6.94
62–76	116.66±19.46	19.04±6.78
77–99	115.02±21.08	18.16±6.59
Test and p value	F=1.192 p=0.82	F=0.224 p=0.80
Gender		
Female	116.63±19.23	16.78±5.60
Male	116.37±20.03	19.27±6.94
Test and p value	t=.066 p=0.94	t=-1.877 p=0.63
Marital status		
Married	117.48±17.59	18.93±6.55
Single	110.75±39.33	19.00±10.32
Other	112.33±21.79	17.50±7.13
Test and p value	KW=1.122 p=0.57	KW=1.374 p=0.82
Education		
Illiterate	115.17±18.38	17.67±6.15
Primary education	116.31±20.13	19.09±7.06
High school	118.37±22.54	20.12±5.08
University	132.00±23.51	16.33±8.08
Test and p value	KW=1.499 p=0.68	KW=1.841 p=0.60
Employment status		
Employed	123.33±15.86	22.22±7.00
Unemployed	115.45±20.14	18.19±6.56
Test and p value	MWU=895.500 p=0.15	MWU=755.000 p=0.02
Smoking		
Yes	114.00±24.63	18.26±7.70
No	116.90±18.81	18.78±6.55
Test and p value	MWU=1288.50 p=0.57	MWU=1325.500 p=0.72
Perceived social support from family and friends		
Yes	117.85±19.28	18.96±6.54
No	106.50±20.95	16.88±7.88
Test and p value	MWU=793.50 p=0.04	MWU=951.000 p=0.26

RSA: Resilience Scale for Adults; LSI: Life Satisfaction Inventory.

between the groups resulted from the employed patients. No statistically significant difference was found between the patients' LSI total mean scores with respect to other introductory characteristics ( $p > 0.05$ , Table 3.2)

The patients' RSA and LSI mean scores suggest that psychological resilience predicts life satisfaction significantly ( $p < 0.05$ )

**Table 4. The regression analysis results regarding prediction of life satisfaction with psychological resilience according to descriptive characteristics**

Dependent variable	Independent variable	Beta <sup>b</sup>	F	d.f. (df1, df2)	p-value	R <sup>2</sup>	t
RSA	Age	-0.021	0.219	1.230	0.80	0.002	6.192
	Gender	-0.000	0.004	1.142	0.94	0.000	1.877
	Marital status	-0.103	1.524	0.123	0.21	0.001	-1.235
	Education level	0.091	1.175	0.008	0.28	0.008	1.084
	Employment status	-0.132	2.525	1.112	0.11	0.017	-1.589
	Smoking	0.054	0.414	0.122	0.52	0.003	0.643
	Perceived social support from family and friends	-0.173	4.374	1.143	0.03	0.03	4.352
LSI	Age	-0.041	0.112	1.141	0.59	0.003	-0.534
	Gender	0.156	3.523	0.616	0.06	0.002	-0.066
	Marital status	-0.078	0.866	0.866	0.35	0.001	-0.931
	Education level	0.064	0.582	1.528	0.44	0.004	0.763
	Employment status	-0.198	5.823	0.142	0.01	0.039	-2.413
	Smoking	0.029	0.117	1.134	0.73	0.001	0.341
	Perceived social support from family and friends	-0.058	0.484	1.142	0.48	0.003	5.222

RSA: Resilience Scale for Adults; LSI: Life Satisfaction Inventory.

**Table 5. The regression analysis results regarding prediction of life satisfaction with psychological resilience**

	Life satisfaction						
	R	R <sup>2</sup>	ΔR <sup>2</sup>	ΔF	β	t	p
Psychological resilience	0.65	0.64	0.02	0.45	0.254	3.128	0.00

and accounts for 65% of the total variance associated with psychological resilience (Table 4).

## Discussion

The results of the study, conducted to determine the relationship between psychological resilience and life satisfaction in COPD patients, were discussed in line with the literature.

There are limited studies primarily focused on psychological resilience and life satisfaction in COPD patients.<sup>[25-27]</sup> Therefore, there is limited evidence supporting the subject. In addition, the dynamics of psychological resilience in this disease group have not been fully investigated.<sup>[25]</sup> The present study determined that COPD patients had high levels of psychological resilience and life satisfaction. The difference between the results of the studies may be the severity of the disease symptoms, the negative results of the treatment and the long-term hospitalization needed for the disease. Arslan et al.<sup>[15]</sup> (2008) conducted a study of cancer patients, and found that the patients had high life satisfaction. In this regard, the results of the literature support our findings.

The present study compared psychological resilience in COPD patients according to introductory characteristics, and deter-

mined that patients with social support had higher psychological resilience. Turkish studies report that receiving adequate social support is an important factor for COPD patients to cope with stress by preventing recurrent hospitalization, and maintaining psychological resilience.<sup>[5,6,8,28]</sup> One study conducted to determine the relationship between psychological resilience, symptom experience and depression in Korean COPD patients reported a significantly negative relationship both between symptom experience and psychological resilience and also between psychological resilience and depression.<sup>[27]</sup> Although the present study found no statistically significant difference between the COPD patients' RSA mean scores with respect to education level, the psychological resilience of COPD patients was determined to increase as their education level increased. Studies reported a positive relationship between education level and ability to cope with stress, an important predictor for psychological resilience in patients. In other words, as the education level of patients decrease, they have more psychological tensions due to increased risk of anxiety and depression.<sup>[2,5,29,30]</sup> The results of the literature support the study findings.

No studies were found of life satisfaction in COPD patients. However, symptoms of COPD reduce the sense of physical control, self-confidence and ability to perform activities of

daily living, and increases anxiety and depression.<sup>[17,18]</sup> This may negatively affect quality of life and life satisfaction.<sup>[15]</sup> In addition, the adverse conditions experienced by COPD patients, such as frequent hospitalizations, solitary life style, comorbidities, poor psychological health, inflammations, dyspnea, fatigue and low self-efficacy may reduce their life satisfaction.<sup>[31]</sup> The present study found that the COPD patients with jobs had higher life satisfaction. This may be because the patients feel productive and beneficial when they worked, as well as the social environment in their working place may have increased morale and motivation.

The present study determined that psychological resilience affected life satisfaction in COPD patients. There are limited number of studies of life satisfaction and psychological resilience in COPD patients. One study conducted to examine the disease perception, drug compliance, psychological resilience and quality of life of Indian COPD and arthritic patients, found a significant relationship between psychological resilience and quality of life.<sup>[26]</sup> Similarly, another study of the psychological resilience factors affecting quality of life of Australian COPD patients reported a significant relationship between quality of life and psychological resilience.<sup>[25]</sup> A similar clinical study of young adults with cancer determined that psychological resilience had an important role in helping cancer patients have life satisfaction.<sup>[32]</sup> There are also non-clinical studies of psychological resilience and life satisfaction. Sagone and De Caroli<sup>[33]</sup> (2013) conducted a study of adolescents, and have found that individuals with high psychological resilience had higher life satisfaction, dealt with stress better, and felt more powerful in adapting to change. One non-clinical study of academic staff in Turkey has reported that psychological resilience affects life satisfaction strongly in a positive way.<sup>[34]</sup> These studies partially support the present study results. However, future studies of psychological resilience and life satisfaction in COPD patients may support clearer statements about the subject.

## Conclusion and Recommendations

Patients with COPD had high levels of psychological resilience and life satisfaction. The psychological resilience of COPD patients affected life satisfaction positively. Accordingly, psychiatric professionals (physicians, psychiatric nurses, consultation liaison nurses etc.) should evaluate and support COPD patients not only physically, but mentally and spiritually, that is, holistically in treatment and the care process in order to increase their psychological resilience and life satisfaction.

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