Original Article

The Effect of Illness Perception on Loneliness and Coping with Stress in Patients with Chronic Obstructive Pulmonary Disease (COPD)

Canan Kiliçkaya, MSc
Lecturer, Giresun University Health Services Vocational High School, Giresun, Turkey

Sibel Asi Karakaş PhD, RN
Department of Psychiatric Nursing, Faculty Health of Science, Atatürk University, Erzurum, Turkey

Correspondence: Sibel Asi Karakaş Department of Psychiatry Nursing, Faculty Health of Science , Ataturk University 25240, Erzurum/Turkey E-mail: sibelasi_36@hotmail.com

Abstract

Aim: This study aims to investigate the effect of illness perception on loneliness and coping with stress among COPD patients.
Methods: This is a descriptive study. Two hundred and forty-six patients who were diagnosed as inpatients with COPD in the department of chest disease at two hospitals in located in Erzurum between 10 April 2013 and 15 August 2013 comprised the population of this study. Of these, 200 patients who agreed to take part in the study and comply with the criteria made up the study's sample. During data acquisition, a questionnaire and the Illness Perception Scale (IPS), UCLA Loneliness Scale and Type of Coping with Stress Scale (TCSS) were administered. The Results Dimension sub-scale of the Dimension of Opinions about Illness had the highest mean score (3.77±0.672) on the Illness Perception Scale.
Results: Mean total score on the Type of Coping with Stress Scale was found to be 76.63±8.60. Mean total score on the loneliness scale was found to be 37.45±13.80, indicating a moderate level of loneliness. A more negative perception of patients toward their illness increased their level of loneliness and decreased their level of effectively coping with stress. According to the survey results, COPD patients' perception of illness has an effect on their degree of loneliness and their ability to coping with stress.
Conclusions: It can be suggested that patients' method of evaluation of their illness should be determined, and that patients should be given psychosocial support to encourage positive evaluation.

Keywords: chronic obstructive pulmonary disease (COPD), loneliness, illness perception, coping with stress,

Introduction

Chronic obstructive pulmonary disease (COPD), which leads to chronic bronchitis and emphysema is characterised by the air stream. This disease limits patients' daily activities, affects their lives in physical, emotional, cognitive, social and economic terms, and is a leading cause of death (Korkmaz & Tel, 2010; Holt, Wamboldt, Ford, Sandhaus, Strange, Bekelman, &Holm, 2015). The prevalence of COPD is ever-increasing (www.goldcopd.com, 2009; Chang & Rivera, 2013). According to the World Health Organisation (WHO), COPD is now the fifth-ranked disease worldwide in terms of cause of death. It is predicted to rank third as a cause of death in 2020 (WHO, 2010).

COPD is a chronic disease. Intense physical and psychosocial problems can arise during treatment. How the patient regards the disease is an important factor in the reduction or increase in the problems experienced (Holt et al., 2015; Aras & Tel, 2009). In clinical applications, it is very important to assess the patient's view of the disease. The perception of illnesses refers to the cognitive perspective of the state of the illness. Every patient has individual beliefs, emotional and behavioural reactions; these affect the patient's perception of disease and method of

coping with it (Uysal & Akpınar, 2013). According to research that aims to measure the relationship between perception of physical illness and result of illness, improvement in the disease is greater when a patient has the perception of control (Kocaman, Özkan, Armay, & Özkan, 2007). These results reveal the importance of learning the meanings attributed to the disease. (Uysal & Akpınar, 2013; Kocaman et al., 2007).

Patients with COPD frequently stay in hospital for treatment. Due to acute exacerbation of the disease, they may require long stays. This separates them from their home environment, makes them see themselves as different and may cause them to live alone (Aras & Tel, 2009; Lu, Nyunt, Gwee, Feng et al., 2012).

Many COPD patients require oxygen, dietary changes and medication as well as hospital stays. They often feel uncertain about the future and fear that they will lose their freedom. All these factors can cause psychosocial problems such as loneliness and hopelessness (Lu et al., 2012 ; Yohannes, Willgoss, Baldwin, & Connolly, 2009; Kunik, Roundy, Veazey, et al., 2004). To help COPD patients cope with stress and to decrease their worry and symptoms of depression, nurses have a significant role in determining and meeting patients' needs and identifying risks (Korkmaz & Tel, 2010). It is important to identify the influencing factors on problems such as stress and loneliness. However, in Turkey and abroad, there has been limited study of illness perception and coping with stress.

Therefore, this study was conducted to investigate the effect of illness perception on loneliness and coping with stress in patients who were hospitalized due to a relapse of COPD.

Materials and Method

Research Type

This is a descriptive, correlational, cross-sectional study.

Population and Sample

Population of this study were 246 patients who were diagnosed as inpatients with COPD in the department of chest disease at two hospitals in Erzurum between 10 April 2013 and 15 August 2013 comprised. Of these, 200 patients who agreed to take part in the survey and comply with the criteria made up the survey's sample.

Inclusion Criteria in Study

The criteria for patients' inclusion in the study were as follows: able to communicate; agrees to take part in research; has been a COPD patient for more than one year; hospitalized with diagnosis of COPD relapse (intensive care patients and outpatients were excluded).

Ethical Principles of Study

Before the study was undertaken, authorization letters were obtained from the hospitals and approval was received from the Institute of Medical Sciences- Ethical Committee Presidency of University of Atatürk. To protect patients' rights, the aim of the study was clarified (principle of informed consent). In addition, it was obtained that the information would be kept private (principle of secrecy and maintenance of secrecy) and that only volunteers would take part in the study (principle of respect for autonomy).

Data Collection

These were collected by using a questionnaire, as well as the Illness Perception Scale (IPS), UCLA Loneliness Scale and Type of Coping with Stress Scale (TCSS). Data were collected while the researchers were face to face with the patients in interview rooms. Completing the information questionnaire and survey took 15 to 20 minutes.

Questionnaire

Data prepared by the researchers included socio-demographic attributes and other information about the patients.

Illness Perception Scale

The Illness Perception Scale (IPS) was developed by Weinman in 1996 and reviewed by Moss Morris and et al. in 2002 (Moss-Morris, Weinman, Petrie, Horne, Cameron, & Buick, 2002). This study used the Morris version. The IPS consists of three parts: signs of a medical problem (identity dimension), illness perception, and reasons for illness. Signs (identity dimension) are assessed through yes/no questions. The perception section includes five point Likert scale (I certainly think so I certainly don't think so) 38 questions and seven subscales duration (acute/chronic), duration (cyclic), results, personal control, treatment control, consistency of illness and emotional representations. The 'reasons for illness' part includes 18 questions using a five-point Likert scale (I certainly think so I certainly don't think

so). The scale's validity and trustworthiness study was done by Kocaman et al (Kocaman et al., 2007). The alpha coefficients of the three parts— signs of a medical problem (identity dimension), illness perception and reason for illness are respectively found to be: 0.73, 0.95, 0.76.

UCLA Loneliness Scale

The UCLA Loneliness Scale consists of 20 items; 10 are normal and 10 are reverse codified. The participant is asked to state how often they experience feelings as expressed in a 4-pointLikert scale. A study of the scale's validity and trustworthiness was done by Demir in 1989 (Demir, 1989). In this research, the alpha coefficient of Cronbach is found to be 0.95.

Type of Coping with Stress Scale

This scale's original name is 'Type of Coping Inventory TCI' but its name in Turkish specifies coping with stress. It was developed by Folkman and Lazarus. This scale includes statements about ways of coping with general or specific stress (Folkman, Lazarus, Gruen et al., 1986). The other factor analysis related to the Type of Coping with Stress Scale was done by Şahin in 1992 (Şahin & Durak, 1995). It indicated that this scale is valid and trustworthy for our country. In this search, the alpha coefficient of Cronbach is found to be 0.70.

Evaluation of Data

Survey data were evaluated using the SSPS 16. 0 statistics pocket programme in Turkey. While analysing data, frequency, percentage and Pearson correlation analysis were used. The significance level is accepted as $p<0.05$ in statistical evaluation.

Results

Of the patients included in the study, 72.8% were male. Of the patients, 44.6% were in the 62-72 age group. Looking at marital status, 80.7% were married. Considering the educational status of the patients, 53.5% were literate. Looking at employment status, 32.7% were retired, and the income level of 47.5% of the patients was moderate. Of the patients included in the study, 92.6% were living with their spouse and children. Of the family members, 68.8%were affected by illness, and 81.2% had received support from family and friends in the course of illness. In addition, 59.9% of the patients didn't need support in fulfilling the activities of daily living, and 36.6% of them had had COPD for 1-5 years (Table 1).

According to the Dimension of Opinions about Illness, it is found that Results Dimension has the highest average score (Table 2).

When the Type of Coping with Stress Scale (TCSS) total score is examined, it is found that the average scores for Self-confident Approach and Desperate Approach are higher than for other coping approaches. The Searching for Social Support Dimension of coping earned the lowest score. The TCSS total score is 76.63 8.60. The UCLA Loneliness Scale's total average score is 37.45 13.80, which is considered to be medium-level (Table 3). There is a significant positive relationship between symptoms of illness, the Results sub-dimension of perception on the Perception of Illness Scale, and the loneliness total score ($p<0.001$). If the number of patients who think they have self-control over their COPD increases, and if the number of patients who think their illness is cyclic increases, the level of loneliness decreases. When the number of patients who think there are various reasons for illness increases, the level of loneliness also increases (Table 4).

When the symptoms of illness increase, the search for social support decreases. When the number of patients who think the duration of the illness will not be long, the illness does not greatly affect their lives and the treatment controls the illness increases, the coping methods of Desperate Approach and Submissive Approach decrease. This study found a positively meaningful relationship between Time-Cyclic Dimension and Coping with Stress, as well as a negatively meaningful relationship between Time-Cyclic Dimension and Submissive Approach. Some methods of coping with stress can play a protective role, creating alternative solutions by arranging the negative emotions related to stress. It was found that there is a positively meaningful relationship between Emotional Representations Dimension and Submissive Approach Dimension ($p<0.05$) , and it was also found that there is a negatively meaningful relationship between the total of Reasons for Illness and Optimistic Approach Dimension ($p<0.05$,Table 5).

Table 1. The distribution of the identifying characteristics of patients (n:200)

Descriptive Characteristics	Number	%
Gender		
Female	53	26.2
Male	147	72.8
Age		
40-50 years	11	5.4
51-61 years	28	13.9
62-72 years	90	44.6
73-83 years	60	29.7
84 years and above	11	5.4
Marital status		
Married	163	80.7
Single	37	18.3
Educational status		
Illiterate	108	53.5
Elementary school	80	39.6
Secondary school	12	5.9
Employment status		
Worker	54	26.7
Officer	5	2.5
Retired	66	32.7
Housewife	52	25.7
Unemployed	23	11.4
Income Status		
Good	28	13.9
Middle	96	47.5
Bad	76	37.6
Family members lived with		
Alone	10	5.0
With his/her family	190	94.1
According to the patient, whether the illness affect family members		
Affected	139	68.8
Not affected	61	30.2
Support from family and friends during illness		
Yes, I got Support	164	81.2
No, I didn't get Support	36	17.8
Whether he/she needs support in fulfilling the activities of daily living		
No	79	39.1
Yes	121	59.9
Disease Duration		
1-5 years	74	36.6
6-11 years	73	36.1
12-17 years	21	10.4
17 years and above	32	15.8

Table 2. IPS (Illness Perception Scale) Range of Point Average

Dimension of Opinions about Illness			
a- duration (acute/chronic) dimension	3.48	±	1.09
b- results dimension	3.77	±	0.67
c- personal control dimension	2.80	±	0.92
d- treat control dimension	3.44	±	0.62
e- consistency of illness dimension	2.81	±	0.98
f- duration (cyclic) dimension	3.44	±	0.64
g- emotional representations dimension	3.50	±	0.94
Reasons for Illness Dimension			
a- psychological attributions dimension	2.89	±	0.76
b- risk factors dimension	2.99	±	0.46
c- immunity dimension	3.61	±	0.59
d- accidence or chance dimension	2.68	±	0.62

Table 3. UCLA Loneliness Scale and TCSS Average Points Scales

	SCALES	**X ± SD**
	Loneliness Total Point	37.45±13.80
Coping with Stress Scales	Self-confident Approach	18.45±5.49
	Optimistic Approach	14.14±3.24
	Desperate Approach	16.35±4.26
	Submissive Approach	15.44±3.54
	Social Support Approach	12.29±3.10
	CSS Total Point	76.63±8.60

Discussion

Due to the fact that COPD is a chronic disease, repetition of illness and frequency of staying in hospital have negative effects on patients' psychology and quality of life (Lu et al., 2012). In our study, the Treat Control, Duration (acute/chronic) and Results sub-dimensions of Dimension of Opinions about Illness received high scores. When Duration Perception is examined, it is found that the majority of patients believe that their disease is permanent, not temporary. These results show that patients believe that they have a chronic disease and they are consistent with the process (Karabulutlu & Okanlı, 2011).

The high score in the Results sub-dimension means that patients have many negative opinions about the severity of COPD and its physical, social and psychological effects. It has also been found, though, that different groups of patients score differently in the sub-dimensions of Perception of Illness (Iskandarsyah , de Klerk, Suardi, Soemitro, Sadarjoen , & Passchier, 2013; Hopman, & Rijken,2015; Hordijk, Broekhuizen, Butler, Coenen, Godycki, Goossens, Hood, & Smith, 2015). In a study of epilepsy, the Treat Control sub-dimension of Perception of Illness earned the highest score (Rizou, De Gucht, Papavasiliou & Maes, 2015). In a study done in our country in which haemodialysis patients took part, it was found that negative emotions related to the illness were

in the foreground in Illness Perception (Karabulutlu & Okanlı, 2011). A European study found that there are differences between countries in terms of perceiving illness (Rizou et al., 2015). This variation is thought to occur because of different illness groups and varying social structures. Comparing our findings to these prior studies, it appears that COPD patients evaluate the duration of their illness more positively than those in other illness groups and that cultural beliefs of societies can affect illness perception.

In the present study, it was found that patients' perception of illness is low. When the results of studies done in different countries were examined, it was seen that the level of perception and understanding of illness was high (Iskandarsyah et al., 2013; Hopman & Rijken, 2015; Hordijk et al., 2015; Rizou et al., 2015; Knowles , Tribbick , Connell, Castle, Salzberg & Kamm, 2014). Uncertainty can be seen as a threat by individuals and can cause anxiety. Also, for the individual, disease can be understood as a crisis that upsets the patient's balance (Karin, Hoth, Wamboldt, Ford et al., 2015). In our country, it is thought that patients do not have enough information about COPD and are not informed about it. This result emphasises that the information given to patients should be reviewed and that individual education is needed.

This study indicates that most of the COPD patients feel mid-level loneliness. In previous studies of patients of a similar average age, a similar level of loneliness was found (Polat & Ergüney, 2012; Bilgili, 2012). In a study conducted abroad of females with chronic health problems, it was reported that patients feel high levels of loneliness, and this has been reported to have negative effects on health (Marcille, Cudney, & Weinert, 2012). If chronically ill patients in Turkey seem to experience less loneliness, it is likely because of cultural factors Turkey has a more traditional society in which people attach importance to family unity.

In this study it was found that COPD patients' level of coping with stress effectively is high. When the sub-dimensions of the Type of Coping with Stress Scale are evaluated, it is seen that most patients choose the method of Self-confident Approach if they experience stressful events. When this method is examined, it is found that many patients say 'I evaluate the events and I try to decide the best one', 'Whatever happens, I feel the power to resist and struggle', and 'I find the power to begin everything again' (Table 2). In another study done with haemodialysis patients, it was found that patients choose methods that are emotion-focused (Karabulutlu, Tan, Erdem, & Okanlı, 2005).A study by Andenaes et al. shows that timely identification and use of problem-solving coping strategies may help to reduce the psychological distress experienced during acute hospitalizations for COPD (Andenæs, Kalfoss, & Wahl, 2006). Nurses should know the patient's method of coping, should support the use of methods that are problem-focused, should prevent the patient from using methods that are emotion-focused, and should teach new and effective methods to cope with (Kocaman, 2008).

The present study found that patients made minimal use of the method of Searching for Social Support to cope with stress. A person who feels loved by others can typically turn to those loving allies for support in a time of need (Ardahan, 2006). In a study done with diabetes patients, it was found that patients chose problem-focused stress-management methods and, similarly, made little use of the method of Seeking Social Support (Kumcağız, Özenoğlu, Avcı, & Uğurlu, 2006). Most of the COPD patients live with their families and do not choose to seek broader social support.

If the symptoms of illness are experienced strongly, if the patient thinks that the illness will last long and is serious, and if the patient believes he or she lacks self-control over the illness, the level of loneliness increases (Table 3). In other words, if the patient perceives his/her illness negatively, his/her level of loneliness increases. It is known that medical and psychosocial problems in chronic diseases cause negative emotions such as anger, distress and unhappiness, (Çelik & Acar, 2007; Jansen, Grootendorst, Rijken, Heijmans, Kaptein, Boesschoten et al., 2010) and that patients who have chronic illness feel loneliness (Ovayolu, Pehlivan, Uçan, & Çuhadar, 2007). Hospital stays, taking medication, physical and social loss of function, economic setbacks, a changing body and uneasiness in social relationships are factors that affect loneliness. Studies on the subject support this study (Ovayolu et al., 2007; Gudmundssona, Gislasona, Jansonb et al., 2006).

In this study, it was found that patients who think their treatment will positively affect the illness

use the problem-focused method of coping with stress. At the same time, when the symptoms increase, it was found that patients use an ineffective method to handle stress the emotion-focused method (Table 4). If the illness cannot be kept under control and if symptoms increase, quality of life decreases. Emotional and situational disorders make the control of illness harder. Loss of health or threat of losing health varies from one person to another. It also leads to stress and makes coping with stress more difficult (Bozbaş, Özyürek & Ulubay, 2011). Simpson et al. study, which included self-adequacy in COPD patients, found that high self-adequacy power reduces the level of shortness of breath, depression and distress (Simpson, & Jones, 2013). If the power of self-adequacy increases, the level of anxiety and depression decreases**.** Studies done with different groups of patients in other countries also show that perceiving the illness negatively increases the use of ineffective methods of coping with stress (Hopman & Rijken, 2015; Knowles et al., 2014). A powerful illness identity makes the act of coping with stress passive, and it also increases the patient's belief that treatment is needed to cope with disease (Bonsaksen, Lerdal & Fagermoen, 2013). The findings of previous studies are parallel with the results of this study (Karin et al., 2015; Bonsaksen et al., 2013).

Psychological stress in patients with COPD was found to be high (Kunik, 2004). It was reported that this fact may be associated with the severity or the duration of hospitalization for COPD (NG, Mathew, Wan-Cheng, Cao, Ong & Philip, 2007; Han, Zhang et al., 2012).Therefore, it is important to identify psychosocial problems of patients with COPD (Lu et al., 2012). The results of this study have made it clear that patients with COPD are in need of psychosocial support. Consequently, when providing care to patients diagnosed with COPD, it is important for healthcare professionals to understand patients' illness perception. This will make it easier to support patients psychologically in dealing with stress.

Conclusions

Some of the findings of this study include: COPD patients experience many emotional symptoms as it is the nature of this illness; patients believe that this is a chronic illness; their sense of self control of the illness is low. According to our findings, illness perception affects loneliness and coping with stress among patients with COPD. In keeping with these results, it can be suggested that ways of evaluating patients' illness perception should be found and patients should be given psychosocial support.

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