



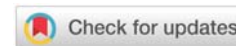
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Research Article

The Relations of depression, anxiety and daily life activity patients with different levels of severity of chronic obstructive pulmonary disease

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Abstract

Introduction and aim: COPD is one of the leading causes of morbidity and mortality worldwide and it leads to economic and social burdens at significant and increasing levels. We aimed to investigate the relationship between daily living activities and depression, anxiety and disease levels in patients with COPD in our study.

Materials and methods: Patients diagnosed with COPD were randomly enrolled to the study who admitted to the university polyclinics. Socio-demographic information form, mMRC dyspnea scale, COPD Assessment Test (CAT), London Chest Activity of Daily Living (LCADL) scale and Hospital Anxiety and Depression Scale (HADS) were applied. The collected data were evaluated by using statistical program.

Results: In the study, 119 patients were enrolled, 94 participants were male (79%) and 25 were female (21%). Thirteen people (10.9%) who never smoked during their lifetime, 67 people (56.3%) who left the cigarette and 39 people (32.8%) were still smoking from the patients who participated in the study. There were 19 clinical cases (16%) and 100 (84%) normal cases for anxiety and 35 clinical cases (29.4%) and 84 (70.6%) normal cases for depression in the whole group. The correlation coefficient between the total score of daily living activity scale and anxiety was found as $r: .289$, and there is a weak level meaningful relationship between them ($p < 0.01$). The correlation coefficient between daily life activity scale total score and depression was found as $r: .259$ and there is a weak level meaningful relationship between them ($p < 0.01$). The correlation coefficient between total daily activity score and CAT total score was calculated as $r: .552$, and there is a moderate level meaningful relationship between them ($p < 0.01$).

Conclusion: In this study, it was concluded that activity of daily living in COPD patients was weakly correlated with depression and anxiety, and moderately correlated with disease level of severity. We believe that anxiety, depression, and severity of illness affects daily life activity in COPD patients, even if they are weak or moderate needed to be treated with a holistic approach.

Introduction

The World Health Organization (WHO) defines chronic disease as “long-lasting and slow-progressing diseases” and chronic condition as “health problems that require continuous care for several years or ten years”. Non-communicable diseases are also defined as those caused by genetic predisposition, lifestyle or environmental exposure that are not caused by an infectious agent. Chronic diseases are diseases that cause a slow and progressive deviation and irreversible changes in normal physiological functions, cover a long period of life and require continuous medical care and treatment [1].

Although chronic diseases are among the main stressors that affect the patient’s adaptation, some factors (treatments, medications, deterioration in family relationships, change in body image, pain, etc.) can be a source of stress [2]. Patients with chronic illnesses tend to have anxiety, depression, and other negative emotions [3]. After the medical diagnosis of chronic diseases, patients are faced with new situations outside of their usual coping strategies. Most of them show a good psychological adjustment, but in about 30% of the patients the correction phase is prolonged and sometimes fails [4,5]. Family physicians should evaluate the patient as a whole and take into account the patient’s feelings and thoughts. In biopsychosocial



care, in primary care, family physicians should increase their adaptation to the disease by helping the patient and the family to adapt to lifestyle changes, preventing unhelpful adaptations, and improving the ability of the patient and family to cope with chronic disease [5,6].

Chronic Obstructive Pulmonary Disease (COPD), which is very common in primary care, is characterized by progressive airflow limitation that is not fully reversible. It develops as a result of the inflammatory process against harmful gases and particles, especially cigarette smoke. Inflammation is not only limited to the lungs, but also shows systemic features. It is a preventable and treatable disease with acute exacerbations that increase in severity and frequency [7-9].

Today, COPD emerges as an important socioeconomic problem in both developed and developing countries. It emerges as an increasingly important health problem with high mortality, morbidity and prevalence in all countries of the world and in our country. It is expected to rank third among all causes of death in the world in 2020 [9,10].

According to the World Health Organization (WHO), depression is ranked as the third leading cause of global disease burden in 2004 and is expected to rank first by 2030 [10]. Depression represents 20-27% of primary health care visits in the general population and in patients with COPD and has a very significant impact on patient health [11,12]. Diagnosing depression in patients with COPD is not easy because of the overlapping symptoms between COPD and depression. Severe COPD can cause somatic symptoms that are difficult to distinguish from depressive symptoms: for example, appetite / weight change, crying / depressed appearance, sleep disturbances and social withdrawal, sadness / pessimism in response to fatigue or energy loss, and lack of reaction to environmental events, thinking or concentrating reduced ability. It is very difficult to understand whether all these symptoms develop secondary to depression or COPD [13]. Other variables that have the potential to confuse the relationship between COPD and depression are some common risk factors; education, Body Mass Index (BMI), alcohol consumption, tobacco use, socio-economic status (income), respiratory symptoms (dyspnea and walking difficulty), demographic characteristics of the individual (age, gender, race / ethnicity and marital status) and heart disease concomitant chronic conditions such as stroke, diabetes, arthritis, hypertension, congestive heart failure, and cancer [14,15].

Patients with COPD often show symptoms such as dyspnea and fatigue leading to functional deficiency and self-deficiency [16]. Patients with severe COPD report that they feel short of breath while doing simple daily life activities or walking around the house. In addition, patients with COPD who are in a stable period, who are not dependent on oxygen, are much less active in their daily lives compared to healthy elderly people. Therefore, the limited physical activity level is a reflection of the patients' symptoms such as deconditioning and shortness of breath. In addition, inactivity contributes to further deterioration of the physical condition of the person and even more shortness of breath. This situation shapes the

vicious cycle of immobility, deconditioning and shortness of breath, which are frequently mentioned in the literature [17]. Ultimately, although inactivity is understood mainly as a result of the disease, worsening and progression of the disease may also cause it. Regarding this COPD vicious cycle, the Global Obstructive Pulmonary Disease Initiative (GOLD) report states that all of these problems have complex interrelationships and that improvement in any of these interrelated processes can halt the vicious cycle in COPD for positive gains in all aspects of the disease. 11th). For this reason, interventions that may lead to an increase in daily physical activity have the potential to break the vicious cycle and lead to improvements accordingly. Due to all these reasons, the determination of physical daily life activities and functional status in patients with COPD has started to attract attention in recent years [17-20].

In this study, we aimed to investigate the effects of daily living activities of COPD patients on their lives and psychosocial situations and to investigate how they affect their anxiety and depression. In addition, in our study, we aimed to examine the differences or similarities between primary care and tertiary care patients.

Materials and Methods: Patients diagnosed with COPD were randomly enrolled to the study who admitted to the university polyclinics between August 2016-June 2017. Cukurova University Institutional Ethic Committee approval is taken for the study. Socio-demographic information form, mMRC dyspnea scale, COPD Assessment Test (CAT), London Chest Activity of Daily Living (LCADL) scale and Hospital Anxiety and Depression Scale (HADS) were applied which validity and reliability of the all research instruments is done [21,22].

COPD patients were randomly selected who admitted to the university polyclinics. Patients with an ICD code of COPD, over 40 years of age, a history of smoking, dyspnea, and physical and mental competence to fill out the questionnaire were included in the study. 147 patients applied to the polyclinics and 119 of them agreed to participate in the study.

The collected data were evaluated by using SPSS statistical program for statistical analysis of the data. Categorical data are summarized as numbers and percentages, while continuous data are summarized by giving mean and standard deviation (median and minimum-maximum where necessary) values. Whether the means of continuous data differed between the two groups was determined by Student's t-test. In categorical data, the ratio differences between groups were evaluated with the Chi-square test. Variables that were found to be significant in univariate analyzes were included in the logistic regression analysis and evaluated. The statistical significance level was taken as 0.05 in all tests.

Results

In the study, 119 patients were enrolled, 94 participants were male (79%) and 25 were female (21%). Thirteen people (10.9%) who never smoked during their lifetime, 67 people (56.3%) who left the cigarette and 39 people (32,8%) were still smoking from the patients who participated in the study.

In order to find out the rates of services that patients receive from the hospital or family medicine for COPD and whether they are related to other variables, we questioned the place where the diagnosis was made, the place of control and the places where the drug was prescribed. Diagnoses of 58 (48.7%) of the patients were made in the state hospital, 50 (42.0%) in the university hospital, and 11 (9.2%) in the private hospital. There was no patient diagnosed with COPD in the family medicine outpatient clinic. The places where the patients went to check-ups for COPD: 6 people (5%) used family medicine, 40 people (33.6%) state hospitals, 50 people (42%) university hospitals, 9 people (7.6%) used private hospitals. 14 patients (11.8%) stated that they did not go to control. 84 (70.6%) of the patients went to family medicine outpatient clinic, 14 (11.8%) to state hospital, 13 (10.9%) to university hospital, 3 (2.5%) to He stated that he applied to a private hospital. 5 patients (4.2%) stated that they did not use medication.

There were 19 clinical cases (16%) and 100 (84%) normal cases for anxiety and 35 clinical cases (29.4%) and 84 (70.6%) normal cases for depression in the whole group. The correlation coefficient between the total score of daily living activity scale and anxiety was found as $r: .289$, and there is a weak level meaningful relationship between them ($p < 0.01$). The correlation coefficient between daily life activity scale total score and depression was found as 0.259 , and there is a weak level meaningful relationship between them ($p < 0.01$). The correlation coefficient between total daily activity score and CAT total score was calculated as $r: .552$, and there is a moderate level meaningful relationship between them ($p < 0.01$).

According to the pulmonary function test results applied to the patients, the post FEV₁ value of the patients who applied to chest diseases was found to be 54.8, the mean FEV₁ / FVC value was 57.1, and the post FVC mean value was 76.6. The average post FEV₁ value of the patients who applied to family medicine was 64.8, the mean FEV₁ / FVC value was 59.7, and the post FVC mean value was 79. Considering the whole patient group, the mean post FEV₁ was 59.5, the mean FEV₁ / FVC value was 58.3, and the post FVC mean value was 77.7.

When we classified the patients according to the GOLD grading, 30 (53.6%) of the patients who applied to the outpatient clinic were group A, 12 (21.4%) were group B, 6 (10.7%) were group C and 8 (%) were 14. 3) classified as group D. Of the patients admitted to the thoracic clinic, 18 (28.6%) were group A, 13 (20.6%) group B, 10 (15.9%) group C and 22 (34.9%) classified as group D.

We apply the patients who participated in our study by the Hospital Anxiety Depression scale was considered to be 7/8 of the depression cut-off point for Turkey. 35 depression clinical cases (29.4%) and 84 (70.6%) normal cases were detected in the whole group.

When we look at the relation of patients with anxiety after calculating their GOLD degrees, 6 clinical cases (12.5%) and 42 normal cases (87.5%) were found in Group A. In group B, 5 clinical cases (20%) and 20 normal cases (80%) were detected from a total of 25 patients. In group C, 1 clinical case (6.2%) and

15 (93.8%) normal cases were detected. In group D, 7 clinical cases (23.3%) and 23 normal cases (76.7%) were detected out of 30 patients. There was no significant relationship between the anxiety levels of the patients and the calculated GOLD disease evaluation grades. ($P > 0.05$).

When we examined the depression status of the patients who participated in our study according to their polyclinic status, 19 (30.2%) of 63 patients who applied to the Chest Diseases outpatient clinic were found to be clinical cases and 44 (69.8%) were found to be normal. Of the 56 patients who applied to the family medicine outpatient clinic, 16 (28.6%) were found to be clinical cases and 40 (71.4%) were found to be normal cases.

When examining whether activities of daily living (personal care, housework, leisure activities) are related to anxiety, depression and CAT degrees in patients with COPD, the Pearson correlation coefficient of the first sub-dimension of LCADL between personal care and anxiety level was $r: .152$. And there is no significant relationship between these two. ($P > 0.05$). The correlation coefficient between depression and LCADL personal care scores was found to be $r: .234$.

Discussion

In our study, when the outpatient and spirometry values of the patients were compared, the pulmonary function tests of the patients who came to the chest diseases outpatient clinic were found to be lower than the family medicine outpatient clinic. However, it was found that there was no significant difference between the two polyclinics in the GOLD grading of the patients. This may be an indication that the degree of illness of the patients is not very effective on the polyclinic they will apply to.

Problems such as adjustment difficulties, anxiety disorders, panic disorder, depression, personality changes are observed in respiratory system diseases. Since hypoxia, hypercapnia, hyperventilation and respiratory failure directly affect brain functions, they cause anxiety and fear. Anxiety, the most common psychiatric disorder, causes hyperventilation; the patient becomes more worried and fear develops when he / she experiences shortness of breath. At the same time, bronchodilators, sympathomimetics and decongestants used in the treatment of respiratory system diseases may cause anxiety, depression and psychotic symptoms [23]. In our study, there is a significant relationship between the degrees of dyspnea and GOLD of the patients and depression. This is in parallel with the literature. In other words, as the burden of COPD disease increases, the possibility of patients to be depressed increases.

Conclusion

In this study, it was concluded that activity of daily living in COPD patients was weakly correlated with depression and anxiety, and moderately correlated with disease level of severity. We believe that anxiety, depression, and severity of illness affects daily life activity in COPD patients, even if they are weak or moderate needed to be treated with a holistic approach.



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