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The Relationship of Chronic Diseases with Anxiety and Depression in Patients Over 65 Years of Age

65 Yaş Üstü Hastalarda Kronik Hastalıkların Anksiyete ve Depresyon ile İlişkisi

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ABSTRACT

Aim: With the increasing life expectancy, the elderly population is gradually increasing. Considering the difficulty in recognizing and treating mental disorders in the elderly, clinicians should be careful about risk factors. This study aimed to investigate the relationship of chronic diseases with depression and anxiety levels and to raise awareness for mental illnesses in this age group.

Material and Methods: This study was conducted with 100 patients over 65 years of age. Patients with a diagnosis of psychiatric illness and using psychotropic drugs for the last 6 months were not included in the study. After the sample of the study was formed, the sociodemographic data form prepared by the researchers and the Hospital Anxiety and Depression Scale were applied to the patients.

Results: Anxiety levels were found to be significantly higher in female patients (p=0.032). A positive correlation was found between age and depression levels (r=0.225, p=0.025). No statistically significant difference was found in anxiety and depression levels between the patient groups with and without chronic disease (p=0.122, and p=0.668, respectively).

Conclusion: Chronic diseases, duration of the disease, and use of medication were not found to be associated with anxiety and depression levels, while anxiety levels were found to be higher in female patients, and also a significant positive correlation was found between age and depression levels. Mental disorders are a subject that needs to be examined in detail in elderly patients. The mental illnesses of elderly patients should not be ignored and should always be considered by clinicians.

Keywords: Elderly; depression; anxiety; chronic disease.

ÖZ

Amaç: Beklenen yaşam sürelerinin artması ile birlikte yaşlı nüfusu giderek artmaktadır. Yaşlılarda ruhsal hastalıkların tanınması ve tedavi edilmesinin zorluğu göz önünde bulundurulduğunda risk faktörleri açısından klinisyenlerin dikkatli olması gerekmektedir. Bu çalışma kronik hastalıkların depresyon ve anksiyete düzeyleri ile ilişkisini araştırmak ve bu yaş grubunda ruhsal hastalıklara yönelik farkındalık yaratmayı amaçlamaktadır.

Gereç ve Yöntemler: Bu çalışma 65 yaş üstü olan 100 hasta ile yapılmıştır. Son 6 aydır psikiyatrik hastalık tanısı olan ve psikotrop ilaç kullanımı olan hastalar çalışmaya dahil edilmemiştir. Çalışmanın örneklemi oluşturulduktan sonra, hastalara araştırmacılar tarafından hazırlanmış olan sosyodemografik veri formu ve Hastane Anksiyete ve Depresyon Ölçeği uygulanmıştır.

Bulgular: Kadın hastalarda anksiyete düzeylerinin anlamlı olarak daha yüksek olduğu bulunmuştur (p=0,032). Yaş ve depresyon düzeyleri arasında pozitif yönde anlamlı bir korelasyon olduğu saptanmıştır (r=0,225, p=0,025). Kronik hastalığı olan ve olmayan hasta grupları arasında anksiyete ve depresyon düzeyleri bakımından istatiksel olarak anlamlı bir farklılık saptanmamıştır (sırasıyla, p=0,122 ve p=0,668).

Sonuç: Kronik hastalıklar, hastalığın süresi ve ilaç kullanımı anksiyete ve depresyon düzeyleri ile ilişkili bulunmazken kadın hastalarda anksiyete düzeyi daha yüksek bulunmuş ve ayrıca yaşla depresyon düzeyleri arasında da pozitif yönde anlamlı bir korelasyon saptanmıştır. Ruhsal bozukluklar yaşlı hastalarda detaylı bir şekilde incelenmesi gereken bir konudur. Yaşlı hastaların ruhsal hastalıkları göz ardı edilmemeli ve klinisyenler tarafından her zaman dikkate alınmalıdır.

Anahtar kelimeler: Yaşlı; depresyon; anksiyete; kronik hastalık.

INTRODUCTION

The elderly population is increasing all over the world. Along with the increasing elderly population, chronic physical and mental diseases are also increasing. The elderly may have more than one chronic physical illness. Physical and social problems that occur with aging can lead to psychosocial crises (1). 15% of the world's population is elderly (2). With aging, the person's health problems increase, social relations decrease, and therefore the person may have mental illnesses. It is difficult for the elderly to both cope with the diseases and maintain their lives (3). Chronic diseases also increase the frequency of psychiatric diseases such as depression and anxiety in these patients. Depression and anxiety in the elderly can often be overlooked. With the decrease in social life and increase in life problems, a tendency to depression and anxiety can be seen (4). However, in elderly patients, not being able to recognize depression and anxiety or noticing it late affects the treatment negatively (5). Clinicians need to be more careful in the treatment of chronic diseases of elderly individuals. Patients should be evaluated psychiatrically, and if necessary, they should be referred to a psychiatrist (6). Medical and family support are important to maintain the required life quality. Interdepartmental cooperation is required in terms of both providing psychoeducation to this patient group and treating psychiatric diseases (7). Anxiety and depressive symptoms may occur during the course of chronic physical illnesses. These symptoms, which are sometimes not obvious, can often be overlooked and not recognized. However, these symptoms may adversely affect the treatment of chronic physical disease. Therefore, early diagnosis and treatment of such symptoms will positively affect the patient's life quality and reduce hospitalizations (8). Many studies have investigated the psychiatric symptoms of the elderly with chronic diseases. However, the etiology, clinical appearance, and treatment approaches of mental symptoms in elderly patients with chronic physical disease have not been fully revealed. Therefore, in this study, we aimed to contribute to the existing literature by investigating the relationship between the diagnosis of the disease, sociodemographic characteristics, and anxiety and depressive symptom levels in elderly patients with chronic physical diseases.

MATERIAL AND METHODS

The study was conducted with patients over the age of 65 who applied to the Internal Medicine Clinic between March 2022 and June 2022. The sample size of the research was calculated with G*Power v.3.1. It was concluded that the total sample size should be 88 with 5% type I error, 90% test power, and 0.7 effect size (9,10). 113 patients were included in the study, considering that there may be missing data. However, 13 patients could not complete the scales, so a total of 100 patients were included in the study sample. First of all, the patients were informed about the study, their consent was obtained, and a voluntary consent form was signed. The patient group was literate and had the academic capacity to fill in the scales. Patients with a diagnosis of psychiatric illness and using psychotropic drugs for the last 6 months, who did not have enough education to understand the tests, who had mental or social retardation, and who did not approve to participate in the study were not included in the study. A sociodemographic data form prepared by the researchers and the Hospital Anxiety and Depression Scale were applied to the patients. Ethics committee approval of the study was obtained (24.03.2022, 75). All practices in this study were made in accordance with the ethical standards of the institutional and/or national research committee and the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Sociodemographic Data Form

Basic sociodemographic and clinical data such as age, gender, education, marital status, disease duration, presence of chronic illness, and diagnosis were questioned. It was prepared by the researchers for this study.

Hospital Anxiety and Depression Scale

This scale consists of 14 items, and is a reliable scale measuring depression and anxiety levels, especially in hospitalized patients. The scale was developed by Zigmond in 1983 (11). Turkish validity and reliability of the scale was conducted by Aydemir et al. (12). In the validity and reliability analysis of the scale, the Cronbach alpha value was found as 0.85 for the anxiety subscale and 0.77 for the depression subscale. The cut-off score for the anxiety subscale was 10 and the cut-off score for the depression subscale was 7. Even-numbered questions of the scale show depression level, while odd-numbered questions show anxiety level. High scores on the scale are associated with increased levels of depression and anxiety (13). It was found that the scale had acceptable internal consistency and did not vary between genders in a study conducted between the ages of 65 and 80 (14).

Statistical Analysis

IBM SPSS v.25 program was used in the statistical analysis of the research data. Descriptive statistics were presented as mean±standard deviation, median, 25^{th}-75^{th} percentile, minimum, maximum, and percentage. The conformity of the variables to the normal distribution was examined using Kolmogorov-Smirnov test. Because of the non-normal distribution of the data, The Mann-Whitney U test was used between two independent groups, and Spearman correlation was used to analyze the correlation. The statistical significance level was accepted as 0.05.

RESULT

A hundred patients were included in the study. Of the patients, 67 were female, 33 were male, the youngest was 65 years old, and the oldest was 89 years old. The mean age was 72.3±6.3 years. While 82 of the patients were primary school graduates, 11 were high school graduates, and 7 were university graduates. In addition, 74 of them were married, 3 of them were single, 20 of them were widowed, and 3 of them were divorced. While 79 of the patients had at least one chronic disease, 21 of them did not have any chronic disease. 64 patients had hypertension, 23 patients had coronary artery disease, 6 patients had chronic obstructive pulmonary disease, 28 patients had diabetes mellitus, 12 patients had hypothyroidism, 19 patients had hypercholesterolemia, 2 patients had breast cancer, 3 patients had osteoporosis, 1 patient had benign prostate hypertrophy, 1 patient had chronic urticarial, and 1 patient had allergic rhinitis. The median duration of chronic disease was 10 (range, 1-50) years. Of the patients,

79 were using drugs. The total number of drugs taken in a day was at least 1 and a maximum of 10, and the median number of drugs used by the patients was 2.

When the relationship between the clinical characteristics of the patients and their anxiety and depression level was examined, a significant positive correlation was found between age and depression level (r=0.225, p=0.025). No significant correlation was found between the duration of the chronic disease and the number of drugs used, and the levels of anxiety and depression (Table 1).

While the depression level of the patients did not differ significantly according to gender (p=0.065), anxiety level were found to be significantly higher in female than in male patients (p=0.032). When the patients were grouped as having or not having a chronic disease, no statistically significant difference was found between the groups with or without the disease both in anxiety (p=0.122) and depression (p=0.668) levels (Table 2).

Similarly, when chronic diseases were considered one by one, no difference was found in anxiety and depression levels according to the presence of each disease (Table 3).

DISCUSSION

In the present study, chronic diseases and clinical features of patients over the age of 65, who constitute an important patient group in terms of health services, were examined. In the study, 79% of patients over 65 years of age who applied to the outpatient clinic had at least one chronic disease. The median number of drugs used by the patients per day was 2, and the most common chronic disease was hypertension with a rate of 64%. In the literature, the rates of chronic diseases in patients over 65 years of age are similar. In a study conducted by Dişçigil et al. (15) in primary care, 82.2% of patients over the age of 65 were found to have at least one chronic disease, and in accordance with our study, the most common chronic disease in patients was found to be hypertension with a rate of 55.6%. In the study of Taşkın Şayir et al. (16), the most common chronic disease was hypertension with a rate of 80%, and 91% of the patients in the study had been using drugs for at least 3 months. In another study, the rate of chronic disease in people over the age of 65 was 66.1% (17). In a large sample study, the rate of polypharmacy in people older than 60 years was 14.9% (18). In another study, 83% of patients had one or more chronic diseases. 86% of the patients used at least one drug related to their chronic diseases (5). Chronic disease and excessive use of drugs, which are frequently seen in the elderly population, can cause mental illnesses. The most common psychiatric disorders in elderly patients are depressive disorder and dementia (19). However, anxiety disorders are also common in elderly patients and cause health problems in the elderly population (20). Health problems of elderly patients increase with the presence of mental illness in old age. These patients need more medical support (21). In a meta-analysis, the most common mental disorder in elderly patients was found to be a major depressive disorder (22). However, in another study, it was found that

Table 1. The correlation between clinical characteristics of the patients and anxiety and depression levels

	HADS-A		HADS-D	
	r_s	p	r_s	p
Age	0.098	0.334	0.225	**0.025**
Duration of disease	0.066	0.512	0.028	0.780
Number of used drugs	0.036	0.719	-0.051	0.611
Number of chronic diseases	0.050	0.620	0.036	0.720

HADS-A: hospital anxiety and depression scale-anxiety, HADS-D: hospital anxiety and depression scale-depression, r_s: Spearman's rho

Table 2. Comparison of anxiety and depression levels in terms of gender and presence of chronic disease

	Gender		p
	Female (n=67)	Male (n=33)	
HADS-A	7 (5) [0-18]	4 (6) [1-18]	**0.032**
HADS-D	5 (6) [0-16]	7 (6) [0-14]	0.065

	Chronic Disease		p
	Yes (n=79)	No (n=21)	
HADS-A	7 (6) [0-18]	5 (6) [0-15]	0.122
HADS-D	7 (6) [0-16]	6 (7) [0-13]	0.668

HADS-A: hospital anxiety and depression scale-anxiety, HADS-D: hospital anxiety and depression scale-depression, *: median (interquartile range) [minimum-maximum]

Table 3. Comparison of anxiety and depression levels of the patients according to the chronic diseases

	HT + (n=64)	HT - (n=36)	
HADS-A	7 (5) [1-18]	6 (6) [0-18]	0.097
HADS-D	7 (6) [0-16]	6 (7) [0-14]	0.347

	CAD + (n=23)	CAD - (n=77)	
HADS-A	7 (7) [0-18]	7 (6) [0-15]	0.696
HADS-D	6 (6) [0-13]	7 (6) [0-16]	0.506

	COPD + (n=6)	COPD - (n=94)	
HADS-A	5 (7) [2-12]	7 (6) [0-18]	0.590
HADS-D	3.5 (7.75) [0-10]	6.5 (6) [0-16]	0.210

	DM + (n=28)	DM - (n=72)	
HADS-A	7 (5.75) [1-18]	7 (6) [0-18]	0.700
HADS-D	6.5 (5) [0-14]	6 (6) [0-16]	0.823

	HTr + (n=12)	HTr - (n=88)	
HADS-A	7 (9.25) [1-17]	7 (6) [0-18]	0.655
HADS-D	8 (8.5) [1-14]	6 (6) [0-16]	0.987

	HC + (n=19)	HC - (n=81)	
HADS-A	3 (7) [1-14]	6 (7) [0-12]	0.259
HADS-D	7 (5) [0-18]	7 (6) [0-16]	0.508

HADS-A: hospital anxiety and depression scale-anxiety, HADS-D: hospital anxiety and depression scale-depression, HT: hypertension, CAD: coronary artery disease, COPD: chronic obstructive pulmonary disease, DM: diabetes mellitus, HTr: Hypothyroidism, HC: hypercholesterolemia, *: median (interquartile range) [minimum-maximum]

anxiety disorder was most common in the elderly and its incidence was 38.2%. In the same study, the rate of depression was 21.7%, and the frequency of co-occurrence of depression and anxiety was 21.1% (23). In another meta-analysis conducted on the elderly population, the incidence of anxiety disorder was 11% (24). In the present study, the relationship between the anxiety and depression levels of the elderly population and clinical features was examined. Accordingly, depression levels increased with age in the patient group, but no relationship was found between age and anxiety levels. In addition, a positive and significant relationship was found between age and depression levels in the patient group, but no relationship was found between age and anxiety levels. In a study by Hacıhasanoğlu et al., in which they investigated the relationship of chronic diseases with clinical features in primary care, a significant positive correlation was found between age and depression and anxiety levels in patients with chronic diseases. However, the sample of this study consisted of not only patients over 65 years of age (25). There are also results in the literature that are inconsistent with our study. In a study by Giordana et al., it was found that the frequency of anxiety disorder decreased with age (26). Similarly, the 12-month prevalence rates of anxiety disorders were examined in a multicenter and large-scale study. The prevalence of anxiety disorders in the elderly population was found to be 17.2%. In our study, women's anxiety levels were found to be higher than men, but no relationship was found between age and anxiety levels. One study found that the prevalence of any anxiety disorder was 40% to 47% more common in adults aged 75-84 compared to those aged 65-74. In another study, the prevalence of any anxiety disorder was 40% to 47% in adults aged 75-84 years. This rate was higher than the elderly in the 65-74 age range. That is, the frequency of anxiety increases with age (27). In the literature, there are data about the relationship between anxiety and depression levels and age. In our study, a positive and significant relationship was found between age and depression levels. Another finding in our study is that anxiety disorder levels in women were significantly higher than in men. There was no difference between genders in depression levels. However, in a study in the literature, depression levels were found to be higher in women over 65 years of age than in men (5). Likewise, in another study by Hacıhasanoğlu et al. (28), depression levels were found to be higher in women over 65 years of age. In a study by Silva et al. (29), depression in the elderly was found to be higher in women. In our study, no relationship was found between the presence of chronic disease and depression and anxiety levels in patients. Likewise, no relationship was found between the type of chronic disease, the duration of the disease, or the use of medication with anxiety and depression levels. In the literature, there are data on the relationship between chronic diseases and depression and anxiety levels in elderly patients, indicating that chronic diseases increase the level of anxiety and depression in general. However, in some studies, similar to the present study, no relationship was found between chronic diseases and anxiety and depression levels. Studies conducted on this subject also show that depression levels increase in the presence of chronic diseases. In a study by Bingöl et al. (5), patients with chronic diseases and regular drug use were found to have higher depression levels. In a study conducted by Dişçigil et al. (15) in primary care, depression rates increased as the number of chronic diseases increased, and if the patient had 2 or more chronic diseases, then depression rates increased 6.2 times. In a study by Şanal Karahan et al. (30), the anxiety levels of patients over the age of 65 with chronic disease were found to be higher than those without chronic disease. A positive correlation was found between the number of drugs used and the number of chronic diseases and anxiety levels in the patient group in the study. In a similar study, the rates of depression were found to be higher in the elderly with chronic diseases (31,32). In a study by Chen et al. (17), it was found that the presence of 2 or more chronic diseases was positively associated with anxiety and depression levels. Consistent with our study, no relationship was found between depression and chronic illness in a study by Saltan A. (33). Likewise, in the study of Altay et al. (34), the presence of chronic disease and drug use were not found to be associated with the level of depression. There are different results on this subject in the literature. Studies examining the relationship between chronic disease and depression and anxiety levels in elderly patients are needed. Elderly patients may not be able to describe their complaints well. Although there are studies in the literature that have reached similar results to the present study, it is thought that the presence of a chronic illness for a long time may increase the level of mental disorders such as anxiety disorder and depressive disorder. However, more research is needed on this subject, especially on anxiety disorders.

Depression is one of the important problems of old age. The presence of chronic diseases and the effect of daily living activities related to these diseases can increase the depression levels of patients. In elderly patients, depression can also be seen in somatic symptoms as well as core symptoms of depression such as not being able to enjoy life. In this case, depression can sometimes be overlooked (35). Likewise, anxiety disorders are also observed in old age. The incidence of anxiety disorder due to medical diseases is also increasing in elderly patients. Sometimes it can be difficult to diagnose anxiety disorder due to the complexity of symptoms in patients (36). In addition, anxiety can be overlooked in elderly patients because it is often observed together with depression. In addition, the symptoms of mental disorders can be considered as normal signs of old age depending on chronic diseases. Therefore, it is difficult to diagnose anxiety disorder in elderly patients (37). Chronic diseases, socioeconomic factors, and stressful life events may increase the frequency of anxiety disorders in elderly patients (38).

The limitations of this study are that it is a single-center study, and the findings cannot be generalized to all individuals over the age of 65. Although the patients are the ones who come to the regular outpatient clinic controls, the fact that the compliance of the patients to the treatment has not been evaluated is another limitation of the study.

CONCLUSION

As a result, life expectancy is increasing all over the world. In this case, the health problems of old age are increasing. Mental disorders are a subject that needs to be examined

in detail in elderly patients. Difficulties in diagnosing patients, treatment processes, and social and family support are very important. The mental illnesses of elderly patients should not be ignored and should always be considered by clinicians. The importance of health data of the elderly patient population is increasing day by day. More research is needed on this subject.

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