

# Psychiatric Disorders and Demographic Characteristics Among Geriatric Outpatients in Canakkale State Hospital

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## ABSTRACT

Psychiatric disorders and demographic characteristics among geriatric outpatients in Canakkale State Hospital

**Objective:** The elderly population in Turkey and in the world is progressively increasing and the increase is expected to be more prominent in the future. As the elderly population grows, there will be an increasing demand on health services, resulting in rapidly rising medical, psychiatric, and social healthcare problems. The aim of the present study is to determine the distribution of psychiatric illness, including gender-based differences, demographic characteristics and prevalence within all elderly age groups, among patients visiting the general psychiatry outpatient clinic.

**Method:** This was a retrospective study using the data of the patient registry system for elderly patients who visited the general psychiatry outpatient clinic between September 2013 and February 2014. Patients were  $\geq 65$  years of age. Patients' demographic characteristics and their Axis I diagnoses according to DSM-IV-TR were recorded.

**Results:** Of the 1044 patients who visited the general psychiatry outpatient clinic during the 6-month period, 15% (n=158) were aged  $\geq 65$  years; 62% of the 158 patients included in the study were female and 38% were male. Depression was present in 41% of patients; 21% had generalized anxiety disorder (GAD); 8% had adjustment disorder (AD), and 7% had schizophrenia. GAD was statistically significantly higher in females and AD was statistically significantly higher in males.

**Conclusion:** Assessing demographic data including common diagnoses and diagnostic differences between genders in elderly patients is important to improve new diagnosis and treatment strategies.

**Keywords:** Adjustment disorder, depression, generalized anxiety disorder, geriatric psychiatry



## ÖZET

Çanakkale Devlet Hastanesi psikiyatri polikliniğine başvuran yaşlı hastalarda psikiyatrik hastalıklar ve demografik özellikler

**Amaç:** Dünya'da ve Türkiye'de yaşlı nüfus oranı giderek artmaktadır ve gelecekte bu artışın daha da belirgin olacağı tahmin edilmektedir. Bu sebeple gelecekte yaşlılığa bağlı her türlü tıbbi, psikiyatrik ve sosyal sorunun artarak karşımıza çıkacağı bilinmektedir. Yaşlılıkta sık görülen psikiyatrik hastalıkları tanımak ve tedavi stratejileri geliştirmek gerekmektedir. Bu çalışmanın amacı psikiyatri polikliniğine başvuran 65 yaş üzeri olan hastaların psikiyatrik hastalıklarının dağılımını, hastalıkların cinsiyetler arası farklarını ve demografik özelliklerini değerlendirmektir.

**Yöntem:** Çanakkale Devlet Hastanesi Psikiyatri polikliniğine Eylül 2013-Şubat 2014 tarihleri arasında sırasıyla başvuran 65 yaş üzerindeki hastaların dosyaları geriye dönük olarak değerlendirilmiştir. Hastaların demografik özellikleri ve DSM-IV-TR'ye göre Eksen I tanıları kaydedilmiştir.

**Bulgular:** Altı aylık süre zarfında genel psikiyatri polikliniğine başvuran 1044 hastanın %15 (n=158)'i 65 yaş ve üzerinde tespit edildi. Çalışmaya alınan 158 hastanın %62'si kadın, %38'i erkekti. En sık görülen hastalıklar sırasıyla %41 depresyon, %21 yaygın anksiyete bozukluğu (YAB), %8 uyum bozukluğu (UB), %7 şizofreniydi. Kadınlarda YAB, erkeklerde ise UB istatistiksel olarak anlamlı derecede yüksek bulundu.

**Sonuç:** Yaşlı hastalarda sıklıkla konulan tanıların bilinmesi, cinsiyetler arası tanı farklılıklarının tespit edilmesi, demografik bulguların değerlendirilmesi bu yaş grubu hastalar için geliştirilecek yeni tanı ve tedavi stratejileri geliştirilmesi açısından oldukça önemlidir.

**Anahtar kelimeler:** Uyum bozukluğu, depresyon, yaygın anksiyete bozukluğu, geriatik psikiyatri

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Date of receipt / Geliş tarihi:  
November 2, 2014 / 2 Kasım 2014

Date of the first revision letter /  
İlk düzeltme öneri tarihi:  
December 7, 2015 / 7 Aralık 2015

Date of acceptance / Kabul tarihi:  
January 14, 2016 / 14 Ocak 2016

## INTRODUCTION

The population of Turkey is aging rapidly, similar to the rest of the world (1). It is expected that by 2025, the number of people aged  $\geq 65$  years in Turkey will reach 12,005,400 (2). As the elderly population grows, there will be an increasing demand on health services, resulting in rapidly rising medical, psychiatric, and social health care problems (3).

Approximately one third of the patients visiting a family practitioner in developed countries is elderly. It is very likely that this will be the situation in Turkey in the near future (4). Ministry of Health data indicate that health expenditure has increased with the rise in average lifespan and the consequent increase in the elderly population (5). There are no overall statistics regarding the prevalence of illnesses and demographic characteristics of elderly who visit psychiatric outpatient clinics in Turkey.

It is noted that family physicians, internal medicine specialists, neurologists and other physicians are primarily confronted with psychiatric illnesses in elderly patients. On the other hand, the identification of psychiatric illnesses that occur in old age may be difficult for these physicians.

The quality of life may be diminished by depression in the elderly. Depression is associated with physical disorders and causes disproportionate and needless health expenditures (3). Considering that a general slowing down, loss of interest and desire, weakness, sense of uselessness, and amnesia are seen as a natural result of aging, it may be difficult for patients and their relatives, physicians, and sometimes even psychiatrists to recognize mental problems in the elderly (6-8).

Old age is a high-risk period with regard to psychiatric disorders—primarily anxiety and depressive disorders—as a result of repeated personal losses, increased physical disturbances, and cognitive disorders that occur at this time of life (9). In addition to the physical and cognitive disorders that are commonly seen in the elderly, psychological findings are regarded as a natural consequence of old age and make it difficult to diagnose comorbid psychiatric illnesses (10).

The aim of the present study is to determine the distribution of psychiatric illness, including gender-based differences, demographic characteristics and prevalence within all elderly age groups, among patients visiting the general psychiatry outpatient clinic.

## METHOD

The study protocol was approved by the University of Canakkale Onsekiz Mart Research Ethics Committee and the management of Canakkale State Hospital. The study follows the tenets of the Declaration of Helsinki.

### Participants

This was a retrospective study conducted using data from the digital patient registry system for the period between September 2013 and February 2014. The study population was comprised of patients aged  $\geq 65$  years who attended the general psychiatry outpatient clinic at Canakkale State Hospital. Subjects were excluded if they were less than 65 years old, lived in a nursing home or dispensary, had applied to a medical board or emergency outpatient clinic and were consulted.

### Data Analysis and Definitions

Patients who were recorded as 'diagnosed definitively' in the digital patient registry form were included in the study, whereas those with a 'pre-diagnosis' were excluded. The data and diagnoses obtained were confirmed by referring to past medical history forms. The digital patient data were anonymously recorded on the information forms prepared by the researchers.

### Statistical Analysis

The PASW Statistics 19 statistical package was used for data analysis. Chi-square and Fisher's exact tests were used for the comparison of categories within the demographic data, and Student's t-test was used for the analysis of the non-categorical data. A p value of  $<0.05$  was considered statistically significant.

## RESULTS

Of the 1044 patients who visited the psychiatry outpatient clinic, 15.0% were determined to be geriatric (age  $\geq 65$  years;  $n=158$ ). The average age of the 158 geriatric patients who were included in the study was  $72.0 \pm 6.3$  years (range:65-98). The female/male ratio was 1.63, average educational period was  $5.3 \pm 3.4$  years (range:0-15), and 84 (53.2%) had a comorbid illness. Although the comorbid illness rate was higher in females, the difference between the genders was not statistically significant ( $\chi^2=3.38$ ,  $p=0.06$ ). Both genders had similar average educational periods.

One hundred and eighteen (74.7%) of the patients were married; the remaining 40 (25.3%) were single, divorced or widowed. There was a significantly

higher percentage of females with a single/divorced/widowed status than the males ( $\chi^2=10.35$ ,  $p=0.006$ ) (Table 1).

The most frequently determined psychiatric disorders among the geriatric patients who visited the psychiatry outpatient clinic were depression (41.1%), adjustment disorder (AD, 9.5%), schizophrenia (7.0%), panic disorder (3.2%), dysthymia (3.2%), and somatoform disorder (2.5%). Dementia, bipolar disorder and other disorders were found in 3.5%.

There was no significant difference for depression observed between the genders. The prevalence of GAD in females and that of AD in males were determined to be significantly high. There was no statistically significant gender-based difference for all the other psychiatric illnesses (Table 2).

**Table 1: Demographics of geriatric patients**

	Female		Male		t	p
	Mean	SD	Mean	SD		
Age	73.5	6.3	71.3	6.1	1.25	0.21
Education	5.6	3.0	5.7	4.0	-1.07	0.33
	n	%	n	%	$\chi^2$	p
<b>Marital status</b>						
Married / cohabiting	66	67.3	52	86.7	10.35	0.006
Single / divorced / widowed	32	32.7	8	13.3		
<b>Comorbid disease</b>						
Yes	58	59.2	26	44.1	3.38	0.06
No	40	40.8	34	55.9		

\* $p < 0.01$ , SD=Standart deviation,  $\chi^2$ =Chi-square, t=Student's-t test, CI=95% Confidence interval of the difference

**Table 2: Distribution of psychiatric disorders according to gender**

	Female (n=98)		Male (n=60)		$\chi^2$	p
	n	%	n	%		
Depression	44	44.9	21	35.0	1.51	0.246
Generalized anxiety disorder	27	27.6	6	10.0	6.94	0.009*
Adjustment disorder	7	7.1	16	26.7	11.41	0.001*
Schizophrenia	4	4.1	7	11.7	3.31	0.105
Panic disorder	4	4.1	1	1.6	0.71	0.650
Dysthymia	4	4.1	0	0	2.51	0.298
Somatoform disorder	3	3.1	1	1.7	0.29	1.000
Dementia	2	2.0	2	3.4	0.25	0.635
Bipolar disorder	2	2.0	2	3.4	0.25	0.635
Alcohol dependency	0	0	1	1.6	1.64	0.380
Conversion disorder	0	0	1	1.6	1.64	0.380
Delusion disorder	0	0	1	1.6	1.64	0.380
Obsessive compulsive disorder	0	0	1	1.6	1.64	0.380
Posttraumatic stress disorder	1	1	0	0		N/A

$\chi^2$ =Chi-square, \* $p < 0.01$ , N/A: Not applicable

## DISCUSSION

Our study showed a similar prevalence of psychiatric disorders in the elderly patients compared to those seen in nursing home patients. A lower rate has been found in subjects who live at home. The prevalence of depression was determined to be 41.1% in elderly outpatients in our study, compared with 41.0%-48.1% prevalence in the elderly in nursing homes and 24.3%-29.0% in those living at home (11,12). We attributed this result to the increased likelihood of having an outpatient consultation in a period of depression. It is already known that there is a high prevalence of depression in patients under institutional care, such as those in a nursing home (12).

Kalenderoglu and Kizil (13) evaluated patients who visited the geropsychiatry outpatient clinic in their study; they reported that the majority of the patients were female, which is in agreement with the results of our present study.

The 2013 data from the Turkish Statistical Institute indicate that life expectancy is 79.4 years in females and 73.7 years in males, and this corresponds to the age average and marital status of our study population (14). The average age of the patients in our study was 73.5±6.3 years in females and 71.3±6.1 in males. These data partially support the suggestion that the ratio of single, divorced or widowed individuals is higher in females than in males, probably because of the longer average life expectancy in women.

Depression is known to be the most frequent psychiatric illness in the geriatric age group. We found depression in 41.1% of the elderly outpatients. As expected, the rate of depression in the geriatric group attending the general psychiatry outpatient clinic was higher than the 18.0% prevalence found in the general geriatric population, and it shows similarities with the 36.8% depression rate found in other studies of geropsychiatry outpatient clinic patients (13,15).

Other studies have reported that GAD is the most frequently observed anxiety disorder in the elderly, whereas our study found it to be the second-most frequent one (16-18). A study conducted in a rural

population found an elderly GAD prevalence of 6.9% (19). In contrast, we showed a 20.9% prevalence in the present study, which was conducted in a city. The large difference in the rates of GAD prevalence can be explained by the difference in terms of rural versus urban setting of the study population (20). It has been shown that anxiety disorders observed in the elderly are particularly associated with female gender, being single or divorced, suffering multiple chronic medical disorders, and having a low education level (21). As a result of the limitation of our retrospective studies, our data was mainly based on the relation with female gender.

Adjustment disorder was the third most frequent psychiatric disorder in the present study. It was diagnosed in 31.3% of elderly inpatients who received a psychiatric consultation (22). An AD might be the result of losing a spouse or close kin, physical illnesses, retirement, or financial problems. Over time, elderly patients will have to adapt to many difficulties in their lives. This may explain why AD illnesses are more commonly found in elderly inpatients than in the general outpatient clinic population.

According to our findings, the majority of patients over the age of 65 admitted to the department of psychiatry were female. Besides, it was observed that the most common psychiatric disorder in these patients was major depression. To the best of our knowledge, this is the first study investigating common diagnoses of psychiatric disorders and demographic data in the elderly patients who visited a psychiatric outpatient clinic in Turkey.

There are several limitations of our study. First, this is a retrospective study. Second, we used a sample group composed of a limited number of patients. Our findings may seem less adequate for using data obtained retrospectively. In addition, a condition may have been ignored if it occurred in long-term follow-up, given that this study was a sectional report. The limited sample size of the study makes it difficult to generalize the findings to the elderly population. Epidemiological studies are needed to determine psychiatric disorders among the elderly population in Turkey.

Contribution Categories	Name of Author
Development of study idea	H.E.
Methodological design of the study	H.E., Y.H.E.
Data acquisition and process	H.E., Y.H.E., B.S.
Data analysis and interpretation	H.E., Y.H.E., B.S., A.U.
Literature review	H.E., Y.H.E., B.S., A.U., E.K.
Manuscript writing	H.E., Y.H.E., B.S., A.U., E.K.
Manuscript review and revision	H.E., Y.H.E., B.S., A.U., E.K.

**Conflict of Interest:** Authors declared no conflict of interest.

**Financial Disclosure:** Authors declared no financial support.

## REFERENCES

- Caglayaner H. Holistic approach to elderly health care for family physicians. *Turkish Journal of Family Practice* 2011; 15:42. (Turkish)
- Tufan I. Ageing and the elderly in Turkey – results of the first age report from Turkey. *Z Gerontol Geriatr* 2009; 42:47-52. **[CrossRef]**
- Kulaksizoglu IB. The elderly and psychiatric disorders. *Clinical Advancement* 2009; 22:65-74. (Turkish)
- Yaman H, Yazici S, Sandholzer H. Geriatric assessment: periodic examination of elderly patients according to evidence based guidelines. *Turkish Journal of Family Practice* 2009; 13:27-38. (Turkish) **[CrossRef]**
- Basara BB, Guler C, Yentur GK, Pulgat E. Health Statistics Yearbook 2012. General Directorate of Health Research, Ministry of Health, Ankara:Sentez, 2013, 3-11. (Turkish)
- Lebowitz BD, Pearson JL, Schneider LS, Reynolds CF, Alexopoulos GS, Bruce ML, Conwell Y, Katz IR, Meyers BS, Morrison MF, Mossey J, Niederehe G, Parmelee P. Diagnosis and treatment of depression in late life. Consensus statement update. *JAMA* 1997; 278:1186-1190. **[CrossRef]**
- Blazer D, Williams CD. Epidemiology of dysphoria and depression in an elderly population. *Am J Psychiatry* 1980; 137:439-444. **[CrossRef]**
- Blazer D, Hughes DC, George LK. The epidemiology of depression in an elderly community population. *Gerontologist* 1987; 27:281-287. **[CrossRef]**
- Ozel-Kizil ET, Yolac-Yarpuz A, Ekinci S, Sorgun M, Turan ED. Investigation of suicidal behavior in elderly depression patients admitted to a geropsychiatry clinic. *Turkish Journal of Geriatrics* 2007; 10:57-60. (Turkish)
- Kurtoglu DT, Rezaki SM. Depression, cognitive impairment and disability among elderly residents living in a nursing home. *Turkish J Psychiatry* 1999; 10:173-179. (Turkish)
- Maral I, Aslan S, Ilhan MN, Yildirim A, Candansayar S, Bumin MA. Depression and risk factors: a comparative study on elderly persons living at home and in nursing homes. *Turkish J Psychiatry* 2001; 12:251-259. (Turkish)
- Bekaroglu M, Uluutku N, Tanriover S, Kirpinar I. Depression in an elderly population in Turkey. *Acta Psychiatr Scand* 1991; 84:174-178. **[CrossRef]**
- Kalenderoglu A, Yumru M, Selek S, Cansel N, Virit O, Savas HA. Sociodemographic and clinical features of patients, who applied to the Geropsychiatry Unit of Gaziantep University Faculty of Medicine. *Anatolian Journal of Psychiatry* 2007; 8:179-185. (Turkish)
- Turkish Statistical Institute. Life Tables. *Turkish Statistical Institute New Bulletin* 2014; 18522. [www.tuik.gov.tr/PreHaberBultenleri.do?id=18522](http://www.tuik.gov.tr/PreHaberBultenleri.do?id=18522). Accessed December 02, 2015. (Turkish)
- Kulaksizoglu IB, Gurvit H, Polat A, Harmanci H, Cakir S, Hanagasi H, Hanagasi H, Bilgic B, Emre M. Unrecognized depression in community-dwelling elderly persons in Istanbul. *Int Psychogeriatr* 2005; 17:303-312. **[CrossRef]**
- Beekman AT, de Beurs E, van Balkom AJ, Deeg DJ, van Dyck R, van Tilburg W. Anxiety and depression in later life: co-occurrence and communality of risk factors. *Am J Psychiatry* 2000; 157:89-95. **[CrossRef]**
- Lenze EJ, Mulsant BH, Shear MK, Schulberg HC, Dew MA, Begley AE, Begley AE, Pollock BG, Reynolds CF. Comorbid anxiety disorders in depressed elderly patients. *Am J Psychiatry* 2000; 157:722-728. **[CrossRef]**

18. Mulsant BH, Reynolds CF, Shear MK, Sweet RA, Miller M. Comorbid anxiety disorders in late-life depression. *Anxiety* 1996; 2:242-247. **[CrossRef]**
19. Kirmizioglu Y, Dogan O, Kugu N, Akyuz G. Prevalence of anxiety disorders among elderly people. *Int J Geriatr Psychiatry* 2009; 24:1026-1033. **[CrossRef]**
20. Flint AJ. Generalised anxiety disorder in elderly patients: epidemiology, diagnosis and treatment options. *Drugs Aging* 2005; 22:101-114. **[CrossRef]**
21. Eroglu MZ, Annagur BB, Icbay E. The evaluation of generalized anxiety disorder in older adults. *Gaziantep Medical Journal* 2012; 18:143-147. (Turkish) **[CrossRef]**
22. Yazgan IC, Kuscü MK, Fistikci N, Keyvan A, Topcuoglu V. Geriatric psychiatry consultations in a Turkish university hospital. *Int Psychogeriatr* 2006; 18:327-333. **[CrossRef]**