

# Features of Geriatric Patients in Psychiatric Consultation: a Retrospective Comparative Study

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## ÖZET

Psikiyatri konsültasyonu istenen geriatrik hastaların özellikleri: Geriye dönük karşılaştırmalı bir çalışma

**Amaç:** Popülasyonda yaşlı sayısının artışı ile birlikte hastanelerde yatan yaşlı hastaların oranı da artış göstermiştir. Bu çalışmanın amacı, konsültasyon liyezon psikiyatrisi (KLP) kapsamında değerlendirilen geriatrik hastaların tıbbi ve psikiyatrik durumlarının geriatrik olmayan erişkin hastalarla karşılaştırılmasıdır.

**Yöntem:** Ağustos 2005 ile Ağustos 2006 tarihleri arasında, Marmara Üniversitesi Hastanesi KLP birimince yatarak tedavileri sırasında değerlendirilmiş hastaların dosyaları geriye dönük olarak incelenmiştir. Altmışbeş yaş üstü olanlar ve 18-55 yaşları arasında olanlar olmak üzere iki grup oluşturulmuştur. Bu iki grup sosyodemografik özellikleri, konsültasyon istenme nedenleri, psikiyatrik belirti ve bulguları, tıbbi hastalıkları, madde kullanımı öyküsü, psikiyatrik özgeçmiş, psikiyatrik soygeçmiş, kullanılan ilaçlar, ön tanılan ve tedavi girişimleri açısından karşılaştırılmıştır.

**Bulgular:** Geriatrik grupta yaş ortalaması 73.0 olan 115 hasta ve geriatrik olmayan grupta yaş ortalaması 38.2 olan 129 hasta çalışmada yer almıştır. En fazla konsültasyon isteyen bölüm her iki grup için dahiliyedir. En sık konsültasyon istenme nedeni, geriatrik grupta psikomotor ajitasyon, geriatrik olmayan grupta depresif duygudurumdur. Geriatrik grupta deliryum tanısı, geriatrik olmayan gruba göre anlamlı derecede daha fazla konulmuştur (%41.7'ye karşı %12.4; p<0.001). Geriatrik grupta en sık rastlanan tıbbi hastalık hipertansiyon iken, geriatrik olmayan grupta lösemidir. Gruplar arasında hastaların kullandığı ilaç sayısı bakımından istatistiksel olarak anlamlı farklılık bulunmuştur (geriatrik hastalar ortalama 7.68±3.52 adet, geriatrik olmayan hastalar ortalama 5.65±4.07 adet; p<0.001).

**Sonuç:** Geriatrik hastalardan istenen psikiyatri konsültasyonlarında bazı noktalar öne çıkmıştır. Psikomotor ajitasyon nedeniyle konsültasyon istenen ve cerrahi müdahale geçiren hastalarda deliryum olgusu akılda tutulmalıdır. Geriatrik hasta grubunun daha fazla sayıda ilaç kullanması ilaç yan etkileri ve ilaç etkileşimlerinin önemini arttırmaktadır.

**Anahtar kelimeler:** Konsültasyon liyezon psikiyatrisi, yaşlı, yatan hasta, deliryum

## ABSTRACT

Features of geriatric patients in psychiatric consultation: a retrospective comparative study

**Objective:** The proportion of geriatric inpatients has increased with the increase of the elderly in the general population. This study aims to compare the medical and psychiatric conditions of geriatric inpatients with those of non-geriatric adult inpatients.

**Method:** Consultation notes of inpatients who have been referred to the Marmara University Hospital Consultation Liaison Unit from different departments, between August 2005 and August 2006 were assessed retrospectively. Patients were divided into two groups, including those over 65 years of age and those between 18-55 years. These two groups were compared according to their sociodemographic data, reasons for consultation, psychiatric signs and symptoms, medical diseases, alcohol and substance use history, personal and family psychiatric history, used medication, psychiatric diagnosis and suggested management.

**Results:** The geriatric group consisted of 115 patients with a mean age of 73.0 years and the non-geriatric group consisted of 129 patients with a mean age of 38.2 years. Internal Medicine Department asked for the highest number of consultations in both of the groups. The most common reasons for referral were psychomotor agitation in the geriatric group and depressive symptoms in the non-geriatric group. Delirium was diagnosed significantly more frequently in the geriatric group compared to the non-geriatric group (41.7% vs 12.4%; p<0.001). The most common medical diagnosis was hypertension in the geriatric group compared to leukemia in the non-geriatric group. The mean number of medications taken by each patient was significantly higher in the geriatric patients than in the non-geriatric patients (7.68±3.52 vs 5.65±4.07; p<0.001).

**Conclusions:** Some issues have arisen in the psychiatric consultations of the geriatric inpatients. Delirium has to be considered in the patients with psychomotor agitation and in those who have been operated recently. The higher number of medications used by the geriatric patients is a reason that physicians have to pay attention to drug side effects and drug interactions in this group.

**Key words:** Consultation liaison psychiatry, elderly, inpatient, delirium

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## INTRODUCTION

The proportion of geriatric inpatients has risen with the increase of the average human life span. The proportion of psychiatric disorders in geriatric inpatients was found to be above the average of the elderly in the general population (1). In their study, Shevitz et al. found that 25% of patients who were referred to the Consultation Liaison Psychiatry (CLP) Unit were 60 years old and above (2). In a multi-centered study, 14,717 patients from 11 European countries who were referred to 56 CLP Units for one year were assessed. The most common reasons for a request for consultation were self-harming behaviour, substance abuse, psychiatric symptoms, and unexplainable physical complaints. A significant proportion of the patients were geriatric patients and had a serious history of medical problems (3). The increase in psychiatric consultations for elderly people means that psychiatrists need to take such issues as disease, drug interaction, side effects, and changes in physiological function due to age into account. Geriatric psychiatry and CLP can thus be considered two interwoven disciplines.

This study compares certain psychiatric and medical characteristics of geriatric patients with those of non-geriatric adult patients based on the psychiatric consultations requested from inpatients at a university hospital.

## INSTRUMENTS AND METHOD

The study sample is composed of patients aged 18 and above who were admitted to different departments of the Marmara University Hospital between August 2005 and August 2006 and were referred for a psychiatric consultation. Patients assessed in the emergency department were not included in the study. The assessments were conducted by research assistants at the psychiatry department and monitored by competent personnel from the CLP or geriatric psychiatry departments. In the study, the consultation notes of inpatients were assessed retrospectively. The consultation notes of each patient included socio-

demographic data, reasons for consultation, patient complaints, psychiatric signs and symptoms, comorbid medical diseases, personal and family psychiatric history, history of alcohol and substance use, medication used, conditions diagnosed, and treatments administered. The geriatric group consisted of patients aged 65 and above, whereas the non-geriatric adult group was composed of patients between the ages of 18 and 55. Patients between the ages of 55 and 65 were not assessed as we are still trying to make a clear distinction between these two groups.

## Statistical analysis of the data

The data was analyzed using SPSS for Windows 10.0. Frequency research was conducted using frequency analysis. The socio-demographic and clinical features of patients were compared using the chi square test. Where necessary, Fisher's exact test was applied. To compare the average number of medications used by patients, the Student's t-test was applied. The statistical significance was set as  $p < 0.05$ .

## RESULTS

Of the 244 patients who participated in the study, 115 (39.5%) were geriatric patients. The socio-demographic profile of the patients is provided in Table 1. Differences in terms of marital status and employment status were detected between the geriatric and non-geriatric groups. An interesting fact was that 43% of geriatric patients held a university degree, although no significant differences between the two groups were observed in terms of gender and educational status.

The units which requested the most consultations for non-geriatric and geriatric patients were the Department of Internal Medicine with 37.1% and 34.2% shares, respectively, followed by neurology with 10.5% and 12.3% shares, the intensive care unit of the Department of Internal Medicine with 9.7% and 14.9% shares, and physiotherapy and rehabilitation with 4.8% and 7.9% shares, respectively. The two groups showed no difference in terms of the departments that requested

**Table 1: Socio-demographic characteristics of non-geriatric and geriatric patients**

	Non-geriatric Patients n (%)	Geriatric Patients n (%)	$\chi^2$	p
Number of patients	129	115		
Gender				
Female	77 (59.7)	68 (59.1)		
Male	52 (40.3)	47 (40.9)		
Average age	38.2	73.0		
Marital status				
Married	82 (67.2)	58 (67.4)		
Single	31 (25.4)	0	19.435	<0.001
Widowed	9 (7.4)	28 (32.6)	13.741	<0.001
Profession				
Working	41 (36.6)	9 (8.8)	23.01	<0.001
Not working/retired	71 (63.4)	93 (91.2)	23.01	<0.001
Education				
No education	2 (2.3)	6 (9.6)		
Primary school	27 (31.0)	15 (24.2)		
Secondary school	7 (8.0)	7 (11.3)		
High school	24 (27.6)	7 (11.3)		
University	27 (31.0)	27 (43.5)		

**Table 2: Common psychiatric symptoms and findings in geriatric and non-geriatric patients**

	Non-geriatric Patients n (%)	Geriatric Patients n (%)	$\chi^2$	p
Depressive mood	58 (45.0)	35 (30.4)	5.439	0.020
Crying	23 (17.8)	9 (7.8)	5.339	0.021
Racing heart	9 (7.0)	2 (1.7)	3.874	0.049
Fatigue	34 (26.4)	18 (15.7)	4.154	0.042
Anorexia	36 (27.9)	17 (14.8)	6.159	0.013
Psychomotor agitation	19 (14.7)	44 (38.3)	17.57	<0.001

the consultations. The most common symptoms and findings for both groups are shown in Table 2.

A comparison of the complaints of non-geriatric and geriatric patients indicates that the first group frequently complained of depressive symptoms, crying, racing heart, fatigue, and anorexia, while the second group complained of psychomotor agitation.

The most commonly diagnosed conditions for all groups are shown in Table 3. The conditions were diagnosed in line with DSM-IV-TR criteria. The only significant statistical differences between the non-

geriatric and geriatric groups were observed in terms of delirium. The proportion of delirium is higher in geriatric patients (geriatric group: 41.7%, non-geriatric group: 12.4%,  $\chi^2$ : 27.04,  $p < 0.001$ ).

In non-geriatric patients, a higher rate of personal history of psychiatric disorder and family history of psychiatric disorder was detected (45.6% vs. 21.6%;  $\chi^2$ : 13.82,  $p < 0.001$  and 14.8% vs. 5.9%;  $\chi^2$ : 4.36,  $p < 0.05$ , respectively). The patients and their relatives were asked about their personal and family psychiatric history and their answers were recorded as yes or no. The frequency of alcohol or substance use disorders did not differ significantly between the two groups.

The most common medical diseases among the geriatric group were the following: hypertension, diabetes mellitus, hyperlipidemia, cardiovascular diseases, heart rhythm disorder, chronic kidney failure,

**Table 3: Most commonly diagnosed conditions in all patients**

	Number of Patients	%
Delirium	76	26.1
Adaptation disorder	68	23.4
Major depression	42	14.4

**Table 4: Accompanying medical diseases in geriatric and non-geriatric patients**

	Non-Geriatric Patients	Geriatric Patients	$\chi^2$	p
	n (%)	n (%)		
Hypertension	14 (10.9)	56 (48.7)	42.560	<0.001
Diabetes	12 (9.3)	31 (27.0)	13.053	<0.001
Chronic obstructive pulmonary disease	7 (5.4)	25 (21.7)	14.199	<0.001
Pneumonia	8 (6.2)	19 (16.5)	6.580	0.010
Chronic heart failure	3 (2.3)	18 (15.7)	13.728	<0.001
Coronary artery disease	1 (0.8)	17 (14.8)	17.459	<0.001
Cerebrovascular event	1 (0.8)	16 (13.9)	16.190	<0.001
Heart rhythm disorder	1 (0.8)	14 (12.2)	13.692	<0.001
Hyperlipidemia	4 (3.1)	14 (12.2)	7.325	0.007
Chronic kidney failure	3 (2.3)	14 (12.2)	9.098	0.003
Leukemia	15 (11.6)	1 (0.9)	11.48	<0.001

**Table 5: Differences in psychotropes used in non-geriatric and geriatric groups**

	Non-Geriatric Patients	Geriatric Patients	$\chi^2$	p
	n (%)	n (%)		
Haloperidol	1 (0.8)	14 (12.2)	13.692	<0.001
Risperidone	3 (2.3)	13 (11.3)	7.999	0.005

chronic heart failure, chronic obstructive pulmonary disease, pneumonia, and cerebrovascular events (Table 4). In non-geriatric patients, however, leukemia was more commonly diagnosed.

The average number of medications used for non-geriatric patients was  $5.65 \pm 4.07$ . In geriatric patients, this figure was  $7.68 \pm 3.52$ . In terms of the number of medications used, a significant statistical difference was observed between the groups ( $t = -3.37$ ,  $p < 0.001$ ). Medication was prescribed by the CLP unit to 80.4% of patients, whereas 3.1% of patients were advised to begin psychotherapy. Of the total number of patients, 1.7% was examined for reporting purposes only. A comparison of the use of benzodiazepine anxiolytics, antidepressants, and psychotropes containing antipsychotics showed that the only difference between the groups was related to the frequency of haloperidol and risperidone use. These two medications were used more frequently by geriatric patients (Table 5).

## DISCUSSION

This was the first study carried out in a hospital in Turkey that compared the psychiatric situations of geriatric and non-geriatric patients who were

assessed by the psychiatry consultation liaison unit. A significant difference was observed between the groups in terms of marital status and professional status. The greater number of medical diseases in geriatric patients, physical disabilities, and not being able to work due to retirement explain the low levels of active employment and high levels of retirement. Between the patient groups, no significant difference was observed in terms of gender and educational status. It was observed, however, that a large portion of geriatric patients held a university degree. The large number of consultations at our hospital by retired, elderly civil servants might explain the high level of university graduates in this group.

An examination of the consultation request distribution by departments showed no significant difference between the groups. The results of other studies reveal that the consultation requests were predominantly made by internal medicine departments (4-6). A large portion of consultation requests made by surgical departments are related to geriatric patients. The fact that delirium occurs more often in geriatric patients compared to non-geriatric patients makes it necessary to consider the role of post-operative delirium in consultations requested by surgical departments.

Frequently diagnosed conditions in non-geriatric patients were depressive symptoms, racing heart, fatigue, and anorexia, while psychomotor agitation was the most common condition diagnosed in the geriatric patient group. In geriatric patients, depressive mood and the somatic symptoms of depression occur at a low level. This may be due to the insufficient recognition of depression in elderly people in current psychiatry practice and the prejudice that depression is a part of the aging process. The high level of agitation in the geriatric patient group corresponds to the frequency of delirium in this group. The fact that a major share of consultation requests made by surgical departments is related to the geriatric patient group, and that these patients typically suffer from post-operative delirium, leads to a higher frequency of agitation.

The most common disorder encountered in our study is delirium; this is consistent with the literature (7). Delirium was diagnosed in 41.7% of geriatric patients and 12.4% of non-geriatric patients. Aging is a risk-increasing factor for delirium (8). History of cerebrovascular event and chronic kidney failure, which are diagnosed more often in the geriatric patient group as shown in the study, are also linked to the development of delirium (8). Accordingly, the results from other studies show that delirium is more often diagnosed in inpatients than other disorders (3,6,9). Low levels of serum albumin in patients with chronic disease might explain this susceptibility to delirium (8).

According to the literature, the proportion of dementia cases in geropsychiatric consultation patients varies between 10% and 52%. Compared to these figures, our findings of 6% in geriatric patients and 3.1 percent in all patients are low. One reason for this that a significant share of consultation requests for dementia patients comes from the Department of Neurology. Another reason might be that the clinicians are not able to identify dementia.

The fact that diseases such as diabetes, cardiac problems, and chronic kidney failure are often diagnosed in geriatric patients indicates that a cautious approach is required when starting treatment with medication. In non-geriatric patients, there was a higher level of personal and family history of psychiatric disorder.

This finding might be attributed to the fact that young generations are more aware of psychiatric disorders. As the majority of geriatric patients suffer from delirium, learning about their personal or family psychiatric history may have been difficult. Moreover, a limiting aspect to the study is that findings relating to personal and family psychiatric history were obtained through polar questions.

In non-geriatric patients, the average use of medication was 5.65, while in geriatric patients the average use of medication was 7.68. In previous studies conducted at our clinic, it was found that the average use of medication in geriatric patients was 4.4 and 6 (10,11). In this study, geriatric patients were found to have used more medication. One reason behind this might be that compared to other studies, the frequency of delirium was higher. We believe that the information provided in liaison studies conducted in cooperation with different medical departments has helped increase the identification of this disorder. On the other hand, the fact that inpatients use a higher number of medications compared to the numbers reported by different countries indicates that treatment with medication is very popular in Turkey. Such a high level of medication use among inpatients will presumably entail medication interactions and a higher level of complications caused by the medication. Lorazepam, citalopram, and sertaline were found to be the most commonly used medications among all patient groups. Sertaline and citalopram are medications containing the least active metabolites among selective serotonin reuptake inhibitors (12). The inhibiting effect of these two medications on citocromo P450 is also weaker compared to other members of the group (12). The use of haloperidol and risperidone in geriatric patients was found to be higher. The frequent use of these medications in geriatric patients might be linked to their increasing use in treatment of delirium. It is also reported in the literature that the use of atypical antipsychotics has been gaining prominence in the treatment of delirium (13). Furthermore, haloperidol is preferred by clinicians in the treatment of agitation related to delirium as it offers several administration options, can be readministered at short intervals, and remains safe even at high dose levels.

The main limitation of our study is that no structured interviews were used when diagnosing psychiatric disorders and the notes were extracted from retrospective reviews. Another limiting factor is that the evaluators used no interview forms and the findings were restricted to the answers provided in the consultation notes. The geriatric group consisted of patients aged 65 and above, and the non-geriatric adult group was composed of patients between the ages of 18 and 55. The group aged between 18 and 55 encompasses patients in different phases of life such as adolescence, young adulthood, adulthood, and middle age. The heterogenic nature of this group and the fact that in some contexts it might have common

characteristics with the geriatric group might have affected the results of our study. A further limitation to our study was that results such as differences in medical diseases accompanying the two groups or the family psychiatric history might be ordinary differences which result from the age gap between the groups.

In conclusion, the findings of this study, which is the first CLP study to be carried out in Turkey, do not reveal remarkable differences from similar studies conducted in other countries. There are currently only a few studies in which geriatric patients are compared to adult patients in terms of CLP. As is shown in the results of this study, geriatric CLP differs from adult CLP in many aspects.

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