

**Evaluation of Patients aged over 65 years who applied to Ankara Training and Research Hospital Family Medicine Outpatient Clinics: Comparison During and After Covid-19 Pandemic****Ankara Eğitim ve Araştırma Hastanesi Aile Hekimliği Polikliniklerine Başvuran 65 Yaş Üstü Hastaların Değerlendirilmesi: Covid-19 Pandemi Dönemi ve Sonrası Karşılaştırma**Mehmet Onat ÇAKIT<sup>1</sup>, İsmail ARSLAN<sup>1</sup>**ABSTRACT**

**AIM:** Considering the importance and priority of the geriatric age group, the aim of our study is to examine the reasons and numbers of applications to primary health care institutions, to make comparisons during and after the Covid-19 pandemic, and to draw attention to the importance of geriatric sciences in family medicine specialty education in the light of this evaluation.

**MATERIAL AND METHOD:** Patients who applied to the Ankara Training and Research Hospital Family Medicine Outpatient Clinics between 01.03.2020-31.12.2022 constitute the population of the study. Patients were retrospectively evaluated during and after the Covid-19 pandemic according to their admission rates and diagnoses. The outpatient clinics they applied to were analyzed. Musculoskeletal system problems were analyzed under a separate heading according to diagnoses.

**RESULTS:** Out of 47014 diagnoses above the age of 65 during the pandemic period, I10 - Essential (Primary) Hypertension was the most common diagnosis. In the post-Covid-19 period, 45928 diagnoses were made in 14398 patients over the age of 65. After general medical and laboratory examinations, the most common diagnose was I10 Essential Hypertension in both period. Musculoskeletal complaint during the pandemic period was the second most common with the diagnosis of M79.1 Myalgia in both period. Musculoskeletal complaints especially myalgia was more common in the pandemic period than the post-covid period (p<0.001).

**CONCLUSION:** We would like to draw attention to the importance of geriatric sciences in family medicine specialty training and the need to the necessity of giving importance to the approach to the musculoskeletal system.

**Keywords:** Family Physician, Covid 19 Pandemic, Musculoskeletal System, Geriatrics

**ÖZET**

**AMAÇ:** Çalışmamızın amacı, geriyatrik yaş grubunun önemi ve önceliğini göz önünde bulundurarak birinci basamak sağlık kuruluşlarına başvuru nedenlerini ve sayılarını incelemek, Covid-19 pandemi dönemi ve sonrasını karşılaştırmak ve bu değerlendirme ışığında aile hekimliği uzmanlık eğitiminde geriatri bilimlerinin önemine dikkat çekmektir.

**GEREÇ VE YÖNTEM:** Çalışmanın evrenini 01.03.2020-31.12.2022 tarihleri arasında Ankara Eğitim ve Araştırma Hastanesi (EAH) Aile Hekimliği Polikliniklerine başvuran hastalar oluşturmaktadır. Hastalar Covid-19 pandemi dönemi ve sonrası başvuru oranları ve tanılarına göre retrospektif olarak değerlendirilmiştir. Başvurdukları poliklinikler analiz edilmiştir. Kas-iskelet sistemi sorunları tanılarına göre ayrı bir başlık altında analiz edilmiştir.

**BULGULAR:** Pandemi döneminde 65 yaş üstü 47014 tanıdan genel tıbbi muayene ve tarama tetkikleri dışında en sık I10 - Esansiyel (Primer) Hipertansiyon tanısı konulmuştur. Covid-19 sonrası dönemde 65 yaş üstü 14398 hastaya 45928 tanı konulmuştur. Genel tıbbi muayeneler ve laboratuvar tetkiklerinden sonra her iki dönemde de en sık konulan tanı I10 Esansiyel Hipertansiyon olmuştur. Pandemi döneminde kas-iskelet sistemi şikayetleri her iki dönemde de M79.1 Miyalji tanısı ile ikinci sırada yer almıştır. Kas-iskelet sistemi şikayetleri, özellikle de miyalji, pandemi döneminde Covid sonrası döneme göre daha yaygındı (p<0,001).

**SONUÇ:** Aile hekimliği uzmanlık eğitiminde geriyatrik bilimlerin öneme ve kas iskelet sistemine yaklaşıma önem verilmesi gerekliliğine dikkat çekmek isteriz.

**Anahtar Kelimeler:** Aile Hekimliği, Covid 19 Pandemisi, Kas İskelet Sistemi, Geriatri

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## INTRODUCTION

Due to the increase in the quality of life and the progress of health sciences, life expectancy is increasing; as a result, the elderly population is also increasing. With this increase, the importance of geriatrics has increased. The rapid increase in the population aged 65 and over causes an increase in the number of applications to health services, especially to primary health care organizations. In a study evaluating the number and causes of applications of elderly individuals to family medicine outpatient clinics, the ratio of the population over 65 years of age to the total number of outpatient clinics was found to be 31.2% and it was emphasized that access to primary health care services should be facilitated due to the importance and priority of the geriatric population.<sup>1</sup>

The biopsychosocial approach, which is the basis of family medicine, is especially important for the geriatric population. The cooperation of family medicine and geriatrics disciplines, which are two rapidly developing specialties in our country, is of great importance for this patient group. In order to get an idea about the state of primary health care services, it is necessary to look at the number and reasons for the application of the geriatric population to these health institutions.<sup>2</sup>

Among the groups most affected by Covid-19 are those over the age of 65, those with chronic diseases and healthcare workers. With the increase in the number of cases, the group that has attracted attention in our country, as in the world, has been the elderly individuals who are at risk. The Covid-19 pandemic has challenged individuals and the sustainability of health systems in many areas of life. With the Covid-19 pandemic, situations such as the isolation of elderly individuals from society have brought to light some of the problems seen in old age. The most important reason for this situation is that the elderly with chronic diseases are vulnerable to infection and the recovery rates are lower among those infected with the virus. World Health Organization has reported that 95% of Covid-19-related death cases in Europe are individuals aged 65 and over. Measures have been taken all over the world due to the significant threat to the elderly.<sup>3</sup>

Taking into account the importance and priority of the geriatric age group, the aim of our study was to examine the reasons for and the number of visits to primary health care institutions, to compare them during and after the Covid-19 pandemic, and to draw attention to the importance of geriatric sciences in family medicine specialty training in the light of this evaluation.

## MATERIAL AND METHOD

Patients who applied to the Ankara Training and Research Hospital (TRH) Family Medicine Outpatient Clinics between 01.03.2020-31.12.2022 constitute the population of the study. No paradigms were selected in the study, and all applicants over the age of 65 were evaluated and compared with the rates in total applications. The period between March 2020 and July 2021 was considered as the Covid-19 period (as of July 2021, all Covid-19 measures have been abolished in our country), and the period between August 2021 and December 2022 was considered as the post-Covid-19 period. Patients were retrospectively evaluated during and after the Covid-19 pandemic according to their admission rates and diagnoses. The outpatient clinics they applied to were analyzed. Musculoskeletal system problems were analyzed under a separate heading according to diagnoses.

### Statistical Analysis

Chi-square test was used to compare categorical data. The t test was used to compare the averages. Analysis results are presented as frequency (percentage) for categorical data, mean and standard deviation for quantitative data. Significance level was taken as  $p < 0.05$ . Data were analyzed with IBM SPSS V16.

## RESULTS

During the Covid-19 pandemic period, a total of 128966 patients applied to Ankara TRH Family Medicine Outpatient Clinics. 23777 (18.43%) of these patients were over 65 years of age. A total of 47014 diagnoses were made including 823 types of diagnoses in this group.

In the post-pandemic period, a total of 181730 patients applied to Ankara TFRH Family Medicine Outpatient Clinics. 35095 (19.31%) of these patients were over 65 years of age. After the pandemic, a total of 45928 diagnoses were made including 782 types of diagnoses in

patients over the age of 65.

Out of 47014 diagnoses above the age of 65 during the pandemic period, I10 - Essential (Primary) Hypertension was the most common diagnosis, except for general medical examinations and screening examinations. The second most common diagnosis was M79.1 Myalgia, the third most common diagnosis was K21 Gastroesophageal Reflux and the fourth most common diagnosis was R32 Urinary incontinence. These diagnoses were followed by N31.8 Other neuromuscular disorders of the bladder, D51 Vitamin B12 deficiency and J06.9 Acute upper respiratory tract infection

Table 1: Distribution of diagnoses received by patients over 65 years of age during and after the pandemic

Over 65 Years	Pandemic Period n (%)	Post-pandemic Period n (%)	p
Total Number of Patients	23777	35095	
Total Number of Diagnoses	47014	45929	
General Medical Exams	5904(12.55)	11999(26.12)	<0.001
Laboratory Exams	767(1.63)	956(2.08)	<0.001
Essential (Primary) Hypertension	4134 (8.7)	4583 (9.97)	<0.001
Gastroesophageal Reflux	1904 (4.0)	1012 (2.2)	<0.001
Urinary Incontinence	1603 (3.4)	2782 (6.05)	<0.001
Vitamin B12 Deficiency	1018(2.16)	575(1.25)	<0.001
Upper respiratory tract infections	863(1.83)	955 (2.07)	0.005

In the post-Covid-19 period, 45928 diagnoses were made in 14398 patients over the age of 65. After general medical and laboratory examinations, the most common diagnoses were I10 Essential Hypertension, R32 Urinary incontinence, N31.8 Other neuromuscular dysfunctions of the bladder, M79.1 Myalgia, K21 Gastroesophageal reflux and J06.9 Acute upper respiratory tract infection (Table 1).

Musculoskeletal complaints during the pandemic period are the second most common with the diagnosis of M79.1 Myalgia. Other musculoskeletal diagnoses were R52.9 Pain (unspecified), M19.9 Arthrosis (unspecified), M81.9 Osteoporosis (unspecified), M13 Arthritis (other), M54.5 Low back pain. Musculoskeletal complaints especially myalgia was more common in the pandemic period than the post-covid period ( $p < 0.001$ )

Table 2: Distribution of the diagnoses of patients over 65 years of age due to musculoskeletal symptoms during and after the pandemic

Musculoskeletal Symptoms	Pandemic Period n (%)	Post-pandemic Period n (%)	p
Myalgia	2864 (6.0)	1492 (3.24)	<0.001
Vitamin D Deficiency	781(1.66)	556 (1.21)	<0.001
Pain (Unspecified)	469 (0.9)	121(0.26)	<0.001
General Fatigue	112 (0.24)	140(0.3)	0.058
Arthrosis (unspecified)	349 (0.74)	39(0.08)	<0.001
Osteoporosis (unspecified)	171 (0.36)	20(0.04)	<0.001
Arthritis (other)	133 (0.28)	398(0.86)	<0.001
Low back pain	119 (0.25)	125(0.27)	0.608
Joint Pain	122(0.25)	271 (0.59)	<0.001

Among the musculoskeletal system complaints in the post-Covid period, the most common diagnosis was M79.1 Myalgia, followed by E55 Vitamin D Deficiency, M25.5 Joint pain, R53 General fatigue, M54.5 Low back pain, R52.9 Pain (unspecified) and M54 Dorsalgia (Table 2). When the polyclinics applied to were examined, the highest number of geriatric patients applied to Central Family Medicine during and after the pandemic. This was followed by Bahçelievler and Mamak district outpatient clinics. Considering the applied outpatient clinics, it is clearly seen that there has been an increase in geriatric patient admissions to district polyclinics after the pandemic.

Table 3: Family medicine outpatient clinics to which patients over 65 years of age most frequently applied during and after the pandemic.

Outpatient Clinic	Pandemic Period	Post-pandemic Period	p
	n (%)	n (%)	
Total Number of Patients Over 65	23777	35095	
Central Family Medicine	6317(26.5)	8051(22.9)	<0.001
Bahçelievler district outpatient clinic	5429(22.8)	8334(23.74)	0.043
Mamak district outpatient clinic	2493(10.48)	3655(10.41)	0.806
Yenimahalle district outpatient clinic	1574(6.61)	3882(11.06)	<0.001
Hüseyin Gazi district outpatient clinic	1594(6.7)	2770(7.89)	<0.001
Home Care Reports	1686(7.09)	2844(8.1)	<0.001

## DISCUSSION

The Covid-19 pandemic has mostly affected geriatric individuals over the age of 65 in our country and in the world. Both the mortality and morbidity of the disease and the restrictions primarily concerns individuals over 65 years of age. In our study, the complaints, number of admissions and preferred outpatient clinics of individuals over 65 years of age who applied to Ankara TRH during and after the pandemic were reviewed. It is seen that hypertension is the leading disease of geriatric individuals admitted to primary care. This is followed by gastroesophageal reflux and urinary incontinence. These diagnoses did not change during and after the pandemic. However, it is noteworthy that musculoskeletal symptoms, myalgia and pain were quite high during the pandemic period. Vitamin D deficiency also has a serious place in the diagnoses of geriatric individuals both during and after the pandemic.

In the retrospective study of Fidancı et al. evaluating the outpatient clinics of family medicine at Ankara TRH in 2012, 2013 and 2014, the numbers of patients admitted were 66455, 90036 and 93563, respectively.<sup>4</sup> It was observed that the number of applications to family medicine outpatient clinics each year was higher than the previous year. In our study, a total of 128966 patients applied to family medicine outpatient clinics in the 16-month period during the pandemic and 181730 patients applied to family medicine outpatient clinics in the 16-month period after the pandemic. An increase in the number of applications over the years is observed even during the pandemic period. In the study of Fidancı et al., the rate of patients over 65 years of age was 11.3% in 2014, while in our study it was 18.43% during the pandemic period and 19.31% after the pandemic, and it is seen that there are increasing rates of applications.

With the aging population in our country and in the world, it is clear that the importance given to geriatric sciences in primary health care services should be increased. In Fidancı's retrospective study evaluating geriatric patients who applied to the Family Medicine outpatient clinic between 2015 and 2020, among a total of 51957 people who applied to the outpatient clinic, people aged 65 years and over were included and the number was found to be 16208 (31.2%).<sup>1</sup> In our study, a total of 128966 patients applied to Ankara TRH Family Medicine Outpatient Clinics during the Covid-19 pandemic. Of these patients, 23777 (18.43%) were over 65 years of age. In the post-pandemic period, a total of 181730 patients applied to Ankara TRH Family Medicine Outpatient Clinics. 35095 (19.31%) of these patients

were over 65 years of age. During the Covid-19 pandemic period, we observed that there was not much change in the applications of patients over the age of 65 to Family Medicine outpatient clinics compared to the post-pandemic period. In our study, it was observed that the rates of general medical and screening examinations and laboratory examinations were high among geriatric individuals during and after the pandemic period and doubled in the post-pandemic period. In their study in which they evaluated the knowledge, attitudes and behaviors of geriatric individuals about periodic health examinations, Maç et al. reported that geriatric had a high rate of having examinations, but they did not have periodic health examinations sufficiently.<sup>5</sup> It is up to family physicians to explain the importance of periodic examination in geriatric individuals and to raise awareness. As far as we have seen in our study, hypertension is the most common diagnosis in family medicine outpatient clinics. Hypertension is an insidious disease that is common today and draws attention as the main cause of many diseases that threaten human life. Family physicians have a great responsibility in the management of hypertension, a disease affecting a significant portion of the population.<sup>6</sup> Family Physicians, who can closely monitor patients and have regular medical records, have an important role in the initiation and reorganization of antihypertensive treatment because they provide health services to a specific population under their supervision.<sup>7</sup>

Musculoskeletal complaints were the second most common diagnosis in patients over 65 years of age in this study. However, although our hospital is a tertiary care hospital, the diagnoses of musculoskeletal complaints, myalgia, pain and arthrosis were not defined, and they were recorded in the system with general diagnosis codes. Making these diagnoses more specific and increasing trainings on low back and neck pain and soft tissue rheumatism in primary care, diagnosing and treating these problems in primary care, referral of treatment-resistant cases to will make it possible to improve the quality of health services. Referral of cases resistant to conservative treatments to relevant specialty areas is the primary goal in primary healthcare services. In our study, it was found that due to the increase in both the number of infected cases and who came with musculoskeletal complaints during the Covid-19 period, furthermore the last but not the least, like the other clinics in our hospital, the conversion of the beds in physical therapy and rehabilitation, rheumatology and orthopedics clinics to Covid-19 services, and the outpatient clinics working at half of their capacity during the Covid-19 period is the biggest factor in this. In addition, another important factor is that patients, especially those over the age of 65, do not want to come to hospitals due to the fear of getting sick and delay benefiting from health services. In Turkey, a series of measures have been taken for the Covid-19 pandemic with the circular issued by the Ministry of Health.<sup>8</sup> Elective hospitalizations and surgical procedures were postponed in order to direct healthcare resources mainly to the diagnosis and treatment of Covid-19. In non-emergency cases, family physicians were asked to provide services; in outpatient clinic applications, patient admission outside the Central Appointment System was stopped in order to reduce crowding and the need for healthcare professionals. In their study, Aslan et al. concluded that the Covid-19 pandemic negatively affected access to healthcare services, as in other pandemics worldwide. The impact of the pandemic on access to healthcare services varies according to the type of healthcare service required and has both supply and demand-based causes.<sup>9</sup> During the period when access to these health services was limited, family physicians in our hospital worked to close this gap and especially patients with musculoskeletal complaints reached family medicine outpatient clinics in greater numbers. However, whether in the Covid-19 period or not, musculoskeletal complaints constitute a significant proportion of admissions to family medicine outpatient clinics. In a study evaluating the 2-month patient profile of a family medicine outpatient clinic providing primary health care services in a tertiary health care institution in Izmir, 16.8% of the patients were over 65 years of age and when the complaints of the patients who applied for examination were evaluated, it was reported that gastric complaints were in the 1st place and musculoskeletal complaints in the 2nd place. Rheumatology was reported as the department where the most consultation was requested.<sup>10</sup> Our rates are similar to the results of this study.

Vitamin D deficiency is a growing health problem worldwide. Many people have low or insufficient vitamin D levels due to genetic characteristics, ethnic and cultural structure, climatic conditions, age and gender. Although it has been known for many years that vitamin D deficiency alone plays a role in the pathogenesis of diseases such

as osteomalacia and rickets, it has been evaluated that it may also play a role as an auxiliary factor in diseases such as diabetes mellitus, multiple sclerosis, systemic lupus erythematosus, metabolic syndrome, epilepsy, rheumatoid arthritis, polycystic ovary and cancer development.<sup>11</sup> In a study evaluating the vitamin D levels of patients who applied to the family medicine outpatient clinic of Meram Medical Faculty Hospital, a very high frequency of vitamin D deficiency and insufficiency was found as 88.4%.<sup>12</sup> In our study, when musculoskeletal complaints and diagnoses were examined, Vitamin D deficiency was ranked 2nd. The order did not change during and after the pandemic. On the other hand, the fact that it can be diagnosed can be considered as an indicator of increased awareness among physicians and patients. However, it is also an important public health problem in our country and it is necessary to give importance to its treatment and prevention.

## CONCLUSION

It is seen that hypertension is the leading disease of geriatric individuals presenting to primary care. This is followed by gastroesophageal reflux and urinary incontinence. These diagnoses did not change during and after the pandemic period. However, it is noteworthy that musculoskeletal symptoms, myalgia and pain were quite high during the pandemic period. We would like to draw attention to the importance of geriatric sciences in family medicine specialty training and the need to the necessity of giving importance to the approach to the musculoskeletal system.

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