Research Article / Araştırma Makalesi

Evaluation of the Clinical and Demographic Characteristics of Patients aged 65 and Over Who Applied to the Physiotherapy and Rehabilitation Outpatient Clinic

Fiziksel Tıp ve Rehabilitasyon Polikliniğine Başvuran 65 Yaş ve Üzeri Hastaların Klinik ve Demografik Özelliklerinin Değerlendirilmesi

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Abstract

Background: The aim of this study is to evaluate the cilinical and demographic characteristics of geriatric patients aged 65 and over who presented at the physical medicine and rehabilitation polyclinic of university hospital.
Materials and Methods: The study was conducted in the physical medicine and rehabilitation (PMR) department of Harran University Hospital. In the study, the records of geriatric patients aged 65 and over who presented at the PMR polyclinic in the first 10 months of 2022 were retrospectively analyzed. Demographic characteristics and diagnoses of patients in the geriatric age group were examined.
Results: A total of 759 people were included in the study, 546 of whom were women (71.9%) and 213 of them (28.1%) were men aged 65 and over. The mean age of the patients was 72.3±6 (65-98) years. The mean age of men was 71.6±5 (65-89) and the mean age of women was 72.6±6 (65-98), and there was no significant difference between the mean ages of both groups (p>0.05). When the diagnosis groups of the patients were examined according to gender, degenerative diseases were determined most (23.9%) followed by joint pain diseases (22.5%) in males. In female patients, the highest rate was observed to be degenerative diseases at 25.5% followed by osteoporosis at 24.2%. In the patient group as a whole, degenerative diseases were seen most often at 25.0% followed by osteoporosis at 19.9%.
Conclusions: We observed that the most common diagnoses of the older adult patients who presented at our PMR polyclinic, the most frequent were degenerative diseases and osteoporosis, followed by other diagnoses. To reduce pain and disability in patients, it is important that protective measures are taken against the risk factors that can worsen the clinical condition of the disease in older adults. Nevertheless, we think that there is a need for multicenter clinical studies with wider patient participation related to the prevalence of musculoskeletal diseases in elderly individuals.
Key Words: Aging, Geriatrics, Gonarthrosis, Osteoporosis, Pain

Öz

Amaç: Bu çalışmanın amacı bir üniversitesi hastanesindeki fiziksel tıp ve rehabilitasyon kliniğine başvuran 65 yaş ve üzeri geriatrik hastaların klinik ve demografik özelliklerinin değerlendirilmesidir.
Materyal ve Metod: Çalışma Harran Üniversitesi Hastanesi fiziksel tıp ve rehabilitasyon (FTR) bölümünde yapıldı. Çalışmada 2022 yılının ilk 10 ayında FTR polikliniğine başvuran 65 yaş ve üzeri geriatrik hastaların kayıtları retrospektif olarak incelenmiştir. Geriatri yaş grubundaki hastaların aldıkları tanılar ve demografik özellikleri incelendi.
Bulgular: Çalışmaya alınan 65 yaş ve üstü hastaların 546'sı kadın (% 71,9) ve 213'ü erkek (% 28,1) olmak üzere toplamda 759 kişiydi. Cinsiyet dağılımına göre bakıldığında gruplar arasında kadın hastaların erkek hastalara göre belirgin bir oranda daha fazla gözükmekteydi. Hastaların yaş ortalaması 72,3±6 (65-98) yıl olarak tespit edildi. Erkeklerin yaş ortalaması 71,6±5 (65-89) kadınların yaş ortalaması 72,6±6 (65-98) olup her iki grubun yaş ortalamları arasında anlamlı bir fark saptanmadı (p>0.05). Hastaların cinsiyete göre hastalık tanı grubu incelendiğinde, erkeklerde en sık dejeneratif hastalıklar %23,9, ikinci sıklıkta eklem ağrıları hastalıkları %22,5 olduğu görüldü. Kadınlarda ise dejeneratif hastalıklar %25,5 yine en sık olup ikinci sıklıkta ise osteoporoz % 24,2 olarak gözlemlendi. Bütün cinsiyet gruplarının toplamında en sık görülen dejeneratif hastalıklar %25,0 olup ikinci sıklıkta da osteoporoz %19,9 olarak saptandı.
Sonuç: FTR polikliniğimize başvuran geriatrik hastalara konulan tanılar arasında en sık dejeneratif hastalıklar ve osteoporoz tanılarının olduğu, diğer tanılarında bu hastalık gruplarını takip ettiğini gözlemledik. Yaşlı bireylerde hastalığın kliniğini artırabilecek risk faktörleri için koruyucu önlemlerin alınması, hastalarda ağrı ve sakatlığı azaltmada önemlidir. Bununla birlikte yaşlı bireylerle ilgili kas-iskelet sistemi hastalıklarının prevalansı ile alakalı hasta katılımın daha geniş olduğu ve multi merkezli yapılacak klinik çalışmalara ihtiyaç olduğunu düşünmekteyiz.
Anahtar Kelimeler: Yaşlılık, Geriatri, Gonartroz, Osteoporoz, Ağrı

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Introduction

The increasing age of the global population represents the most important medical and social problem throughout the world in a demographic respect. The World Health Organization (WHO) defined the definition of healthy aging as the process of developing and maintaining the functional ability that provides well-being in older ages. Although ageing is defined as the process which starts at birth and continues until death, old age is defined as the chronological period of 65 years and over. The concept of old age is the advanced age stage of the life cycle and is seen as the period when the effects of ageing become more evident. In addition to functional deficiencies and health problems in this period, there is an increase in accompanying chronic diseases (1,2).

Throughout the world people have been increasingly living for longer in recent years. It is currently expected that most people will have life expectancy of more than 60 years. Every country in the world is experiencing growth based on both the size and proportion of older people in the population. According to WHO, by 2030, 1 in 6 people in the world will be 60 years or older. Currently, the share of the population aged 60 and over will increase from 1 billion to 1.4 billion in 2020. By 2050, the world's population of people aged 60 and over will double (2.1 billion). Between 2020 and 2050, the number of people aged 80 and over is expected to triple to reach 426 million (3).

Together with ageing, an increase is seen in some chronic diseases. Among the frequently seen conditions in the musculoskeletal system, diseases such as osteoporosis and osteoarthritis with low back, back, and neck pain increase with ageing and pains are reported in joint regions associated with these diseases. The probability of experiencing several disease conditions at the same time also increases as people age.

The aim of this study was to determine what proportion of all presentations at the Physical Medicine and Rehabilitation (PMR) polyclinic of a university hospital comprised patients aged ≥65 years, and which diseass were more common in this age group.

Materials and Methods

The study was carried out in the PMR department of Harran University Hospital. A retrospective examination was made of the records of geriatric patients aged ≥65 years who presented at the PMR polyclinic of a university hospital between 1 January and 1 November 2022. The diagnoses and demographic characteristics of the patients in this age group were examined. During the defined study period, a total of 8302 patients presented and were examined in the PMR polyclinic, comprising 916 aged <18 years, 6358 aged 18-64 years, and 1032 aged ≥65 years. The older adults aged ≥65 years constituted 12.4% of the total number of patients examined in the polyclinic. As there were patients who had presented at more than once at the polyclinic, repeated presentations were discounted and thus for the evaluations of this study, the data in the files of 759 older adult patients were retrospectively examined. The patients were separated into two groups according to gender and within those groups into four age groups of first group 65-69 years, second group 70-74 years, third group 75-79 years, and fourth group ≥80 years.

Approval was obtained from the Harran University Clinical Research Ethics Committee before the study. (Date: 28.11.2022, Decision no: HRU/22-23-07). The research was conducted in accordance with the Declaration of Helsinki.

Statistical Analysis

All parameters obtained from the study were recorded in the SPSS (Statistical Package for Social Science for Windows version 22.0 SPSS, Chicago, IL, USA) program and analyzed. Continuous variables were expressed as mean ± standard deviation (SD). Conformity of continuous variables to normal distribution was assessed with the Kolmogorov-Smirnov test. Demographic characteristics such as diagnosis, age and gender were evaluated and reported as median (min-max) values. In statistical analyses, $p<0.05$ was accepted as significant.

Results

A total of 759 patients aged ≥65 years, 213 (28.1%) male and 546 (71.9%) female, were evaluated in the study. The mean age of whole patient group was determined to be 72.3±6 years (65-98) for females 72.6±5 years (65-98) and for males 71.6±5 (65-89). No significant was determined between the two groups in respect of mean age ($p>0.05$).

When the patients were examined according to age groups, of the male patients, 42.3% were in the 65-69 years age group, followed by 31.0% in the 70-74 years group. Of the female patients, 37.4% were in the 65-69 years age group, followed by 32.1% in the 70-74 years group. From the total patient group, 38.7% were in the 65-69 years age group, followed by 31.8% in the 70-74 years group. The distribution of the patients by gender and age groups is given in Table 1.

When the diagnosis groups of the patients were examined according to gender, degenerative diseases were determined most (23.9%) followed by joint pain diseases (22.5%) in males. In female patients, the highest rate was observed to be degenerative diseases at 25.5% followed by osteoporosis at 24.2%. In the patient group as a whole, degenerative diseases were seen most often at 25.0% followed by osteoporosis at 19.9%. When the disease diagnoses were examined according to age groups, osteoporosis was determined most often in the 80-100 years age group, followed by degenerative diseases. In all the other age groups, degenerative diseases were most frequent, followed by osteoporosis. The distribution of the diagnosis groups of the patients according to gender and age groups is shown in Table 2.

According to the diagnoses of the patients, in males, joint pains were determined most often at the rate of 24.4%, accompanying low back pain at 13.6% and gonarthrosis at 10.3%. In female patients, osteoporosis was seen most often at 24.0% as gonarthrosis at 19.0% and joint pains at 17.6% . In the whole patient group, osteoporosis was determined most often at 19.8% followed by joint pain at 19.5% and gonarthrosis at 16.6%. The distribution of the diagnoses of the patients is shown in Table 3.

Table 1. Distribution of Patients by Age Groups and Gender

			Age (Year)				
			65-69	70-74	75-79	80-100	Total
Gender	Male	Number (n)	90	66	35	22	213
		Percentage (%)	11,9	8,7	4,6	2,9	28,1
	Female	Number (n)	204	175	97	70	546
		Percentage (%)	26,9	23,1	12,8	9,2	71,9
Total		Number (n)	294	241	132	92	759
		Percentage (%)	38,7	31,8	17,4	2,1	100,0

Table 2. Distribution of Disease Groups by Gender Groups of the Patients

Disease Group	Gender				Total	
	Male		Female			
	Number (n)	Percentage (%)	Number (n)	Percentage (%)	Number (n)	Percentage (%)
Degenerative Diseases	51	23,9	139	25,5	190	25,0
Osteoporosis	19	8,9	132	24,2	151	19,9
Rheumatic Diseases	1	0,5	15	2,7	16	2,1
Orthopedic Diseases	3	1,4	8	1,5	11	1,4
Neurological Diseases	33	15,5	66	12,1	99	13,0
Spinal Diseases*	39	18,3	66	12,1	105	13,8
Soft Tissue Diseases	19	8,9	38	7,0	57	7,5
Joint Pains	48	22,5	82	15,0	130	17,1
Total	213	100,0	546	100,0	759	100,0

**Diseases other than degenerative and inflammatory diseases involving the spine*

Table 3. Distribution of Patients by Diagnosis

Disease	Gender				Total	
	Male		Female			
	Number (n)	Percentage (%)	Number (n)	Percentage (%)	Number (n)	Percentage (%)
Gonarthrosis	22	10,3	104	19,0	126	16,6
Osteoporosis	19	8,9	131	24,0	150	19,8
Lumbar Disc Herniation	25	11,7	25	4,6	50	6,6
Cervical Disc Herniation	4	1,9	0	0,0	4	0,5
Polyneuropathy	12	5,6	44	8,1	56	7,4
Fibromyalgia	0	0,0	1	0,2	1	0,1
Rheumatoid Arthritis	1	0,5	15	2,7	16	2,1
Myalgia	2	0,9	5	0,9	7	0,9
Neck Pain	6	2,8	13	2,4	19	2,5
Backache	29	13,6	54	9,9	83	10,9
Spinal Stenosis	3	1,4	4	0,7	7	0,9
Joint Pain	52	24,4	96	17,6	148	19,5
Shoulder Pain	15	7,0	22	4,0	37	4,9
Hip Pain	0	0,0	5	0,9	5	0,7
Meniscus Tear	1	0,5	4	0,7	5	0,7
Carpal Tunnel Syndrome	1	0,5	3	0,5	4	0,5
Nerve Injury	2	0,9	3	0,5	5	0,7
Hemiplegia	18	8,5	14	2,6	32	4,2
Paraplegia	1	0,5	2	0,4	3	0,4
Parkinson's Disease	0	0,0	1	0,2	1	0,1
Total	213	100,0	546	100,0	759	100,0

Discussion

In our study, we observed that the most common diagnosis of joint pain in male patients and osteoporosis in female patients. In the whole patient group, osteoporosis was determined most often followed by joint pain and gonarthrosis. The study sample of the total 759 patients aged ≥65 years comprised 71.9% females and 28.1% males. The average age of the whole group was 72.3±6 years (65-98), as mean 71.6±5 (65-89) in males and 72.6±5 years (65-98) in famele.

In a multicentre study by Doğan et al., 820 patients aged ≥65 years were investigate and the average age was seen to be 71.7±6 years (65-91). Although the gender distribution was seen to be 69.6% females and 30.4% females, no significant difference was between genders according to age distribution (4). Similarly, in our study, no significant difference was determined between males and females in terms of age distribution.

As throughout the world in general, there is an increasing ageing population in Turkey. According to the data of the Turkish Statistics Institute, the population aged ≥65 years was 7.1% of the total population in 2007 and this rate had increased to 9.5% by 31 December 2020. The number of older adults has increased with increased life expectancy. Together with increased life expectancy, there has also been an increase in the risk of significant health problems affecting the health and well-being of older adults (5, 6).

In this study, patients were separated into 4 age groups. The largest age group was 65-69 years, which included 38.7% of the total patients, followed by 31.8% in the 70-74 years age group. Thus it was observed that the majority of the patients were aged 65-74 years, with 70.5% of the total patients in these two age ranges. In a previous study in Turkey of patients aged ≥ 65 years, the high rate of 76.4% of the patients were in the age range of 65-70 years (7). In another study that evaluated patients aged ≥60 years, 33.5% were determined in the 60-64 years age group, followed by 31.0% in the 65-69 years group (8). If the patients in that study had been evaluated as >65 years, the age range in which the patients appeared most often would have been the 65-69 age group and the majority of the patients would have been seen to be aged 65-74 years. In respect of the age groups, the current study was consistent with that study.

The global increase in the ageing population is indisputably one of the most important current economic, health, and social challenges. In addition, one of the most important current epidemiological trends is the increase in chronic and degenerative diseases. Major degenerative diseases, which diminish quality of life, are generally associated with ageing, and are usually closely related to each other. The most important degenerative diseases of the musculoskeletal system can be defined as sarcopenia, osteoporosis, and osteoarthritis. These disorders have been associated with negative health outcomes such as changes in body composition and loss of functional capacity, frailty, fractures, falls, pain, and even the risk of death (9, 10). In the current study, the degenerative disease group was the most frequently seen finding in both males and females. When examined in respect of age groups, with the exception of the 80-100 years age group, degenerative diseases were again the most frequently seen disease group in all the other age groups.

The conceptual definition of osteoporosis was made by the WHO in 1994 as “a progressive systemic skeletal disease, characterised by low bone mass and deterioration in the micro-architecture of bone tissue, resulting in bone fragility and an increased predisposition to fracture”. Osteoporosis is the most common chronic metabolic bone disease characterised by increasing bone fragility due to various factors such as menopause and ageing. Although it is seen in every age group, race, and both genders, it is seen more often in females, the elderly, and Caucasians. Primary osteoporosis is associated with the ageing process together with a decrease in sex hormones. The bones show deterioration in micro-architecture and this causes loss of bone mineral density and an increased risk of fracture. Other diseases or treatments can cause secondary osteoporosis (11-13).

Osteoporosis is present in more than 200 million people worldwide and the incidence increases with age. More than 70% of those aged >80 years are affected. It is more common in females than males. In the developed world, males are affected at the rate of 2-8%, and females at the rate of 9-38%. As a consequence of osteoporosis, approximately 9 million fractures per year occur worldwide (14, 15). In the total patient group of the current study, degenerative diseases were seen most often at the rate of 25.0%, followed by osteoporosis at 19.9%. The rates of osteoporosis of 8.9% in males and 24.2% in females were consistent with data in literature. When the disease diagnosis groups were examined according to the age groups, osteoporosis was seen most often followed by degenerative diseases in the 80-100 years age group. In all the other age groups, degenerative diseases were the most common, followed by osteoporosis. The osteoporosis rate of 25% in the 80-100 years age group was low, which could be attributed to the low number of patients in that group.

Osteoarthritis (OA) is the most commonly seen progressive musculoskeletal condition which can affect the joints. The hips and knees, as weight-bearing joints, are more affected by OA. It is now known that OA is not just a disease characterised by cartilage loss due to mechanical loading, but is also a condition that affects all the tissues in the joint. Moreover, OA causes changes that can be determined in the tissue structure, metabolism and function. Knee OA (gonarthrosis) is a clinical disease characterised by structural changes primarily in the joint cartilage and subchondral bone, but also in the Hoffa fat pad, synovia, ligaments, and muscles. This leads to the concept that OA appears as a disease of the whole joint.

Gonarthrosis is one of the most common degenerative diseases causing disability in the elderly. There is significant knee or hip OA in 8.9% of the adult population and the most common type is gonarthrosis. The prevalence of gonarthrosis in adults aged ≥60 years is estimated to be approximately 10% in males and 13% in females (16-20). In the current study, gonarthrosis was found to be the third most common disease diagnosis in males and the second in females. Moreover, as the degenerative disease group was the most frequently seen in both males and females, this could have been due to the high rate of gonarthrosis.

Limitations

The main limitations of our study were the lack of knowledge of additional comorbid diseases due to its retrospective nature, the evaluation and diagnosis of patients by different clinicians, and the evaluation of a relatively small number of patients.

Conclusion

In conclusion, the results of this study demonstrated that of the diagnoses made of the older adult patients who presented at our polyclinic, the most frequent were degenerative diseases and osteoporosis, followed by other diagnoses. To reduce pain and disability in patients, it is important that protective measures are taken against the risk factors that can worsen the clinical condition of the disease in older adults. Therefore, degenerative diseases and osteoporosis are important chronic diseases affecting the health of the elderly, and this must be taken into consideration when planning healthcare services. Nevertheless, there is a need for further multicentre studies with larger patient populations to clarify the prevalence of musculoskeletal system diseases.

Ethical Approval: *The study was approved by Harran University Clinical Research Ethics Committee (Date: 28.11.2022, Decision no: HRU/22-23-07).*

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Concept: V.D.
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Data acquisition: V.D., S.İ.
Analysis and interpretation: V.D., S.İ.
Writing manuscript: V.D., S.İ.
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