ANALYSIS OF THE USE OF HOSPITAL SERVICES BY THE ELDERLY, IN ROMANIA, IN 2019

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INTRODUCTION

The phenomenon of population aging is the demographic aspect faced, for a long time, especially by economically developed countries, but which is becoming more and more visible, including in less developed countries. Thus, in 2017 the population over 60 years old numbered 962 million people, twice more than in 1980, by 2050 expecting a doubling of this number, also by 2030 is expected as the number of elderly to exceed that of children under 10 years of age, and by 2050 that of adolescents and young people 10-24 years of age [1]. Two-thirds of the current number of older people are in developing countries, and their numbers are growing faster than in developed countries [1]. In Europe and North America, one in 5 people was over 60 in 2017, and in 2050 it is expected that in Europe the share of the elderly will be 35% of the population, compared to 28% in North America, 25% in America Latin, 24% in Asia, 23% in Oceania and 9% in Africa. [1]

In Europe, life expectancy at birth has been increasing for a long time, it has increased on average by more than 2 years / decade, for both sexes, since 1960, however, being higher for women. In the case of the elderly, life expectancy at age 65 was 21.4 years in 2017 for women and 18.1 years for men in Europe, compared to life expectancy at birth worldwide, which was at age 65. 15.1 years for men and 17.8 years for women [1].

Statistical data show that on January 1, 2019 the population of Romania was 22.17 million people, of which the elderly, people over 65 years represented 18.5% of the total residents, of which 15.3% men and 21.6% women [2]. In Europe, the ratio between the share of young people and that of the elderly changed in 2005, with the elderly representing a higher percentage compared to young people (under 15), compared to Romania where the change in this ratio occurred in 2009 [2]. In terms of the share of the elderly in both sexes, women predominate, with the average age of women being 3.2 years higher than that of men, the same being recorded for the median, an increase of 0.7. years in 2019 compared to 2017, double the European Union average [2]. The age pyramid for the two sexes, 2019 compared to 2000, is presented in fig. 1. The rural population has registered a more aging than the urban one.

Population aging is a phenomenon with a strong dynamic, which requires a constant concern of health policies in order to make the most effective and efficient decisions for this population segment. The health needs of the elderly have many age-specific features, and records of patterns of hospital use by the elderly population can support the decision-making process. The purpose of the analysis was to identify the main models in the use of hospital services, by analyzing the causes of hospitalization and in-hospital death in the elderly, over 65 years, in Romania.

METHOD. The DRGNational database was investigated in order to select hospitalization episodes for the elderly in 2019. All hospitals that reported patient-level data were included. Data on the main diagnosis and discharge status were extracted, as well as other variables that allowed the analysis of demographic characteristics.

calls for the formulation of economic and health policies in line with the needs of the elderly related to their economic and social protection, specific health services and home care for people with disabilities or various forms of disability, and the elderly without family support.

RESULTS. The most common major categories of hospitalization that required hospitalization of patients over 65 years were: diseases and disorders of the circulatory system, diseases and disorders of the musculoskeletal system and connective tissue, diseases and disorders of the nervous system. Among the most common cardiovascular diseases, hospitalized patients presented with congestive heart failure, valvopathies such as mitral regurgitation or primary hypertension as the main diagnosis of hospitalization. The pattern of frequent use can be summarized as follows: women with an average age of 77 years, from rural areas, who needed an average length of hospitalization of 8 days, most patients being discharged as ameliorated, while a fifth died.

Most in-hospital deaths occurred in the elderly hospitalized for diseases and disorders of the circulatory system (a quarter of the total), diseases and disorders of the nervous system (about one-fifth) and diseases and disorders of the respiratory system (over one-tenth of the total). Pattern of the elderly who died in the hospital: the average age of 78 years, most of them came from urban areas, with a slight predominance of women.

Among cardiovascular diseases, the most common deaths were recorded in patients with the main diagnosis: unspecified cardiac arrest, congestive heart failure, dilated cardiomyopathy, but also acute myocardial infarction, sudden heart death, or heart failure. Patients who died with such diagnoses had an average age of 78 years, women predominated, came mostly from urban areas and were hospitalized for an average of 11 days.

CONCLUSIONS. The in-depth analysis of hospital activity must provide an overview, but at the same time a comparative picture of the causes of hospitalization and in-hospital death by age groups (children, adults, the elderly). Decisions on the allocation of resources and their use at the hospital sector level must be supported by valid, up-to-date records, and taking into account the particularities in the use of hospital services by older age groups.

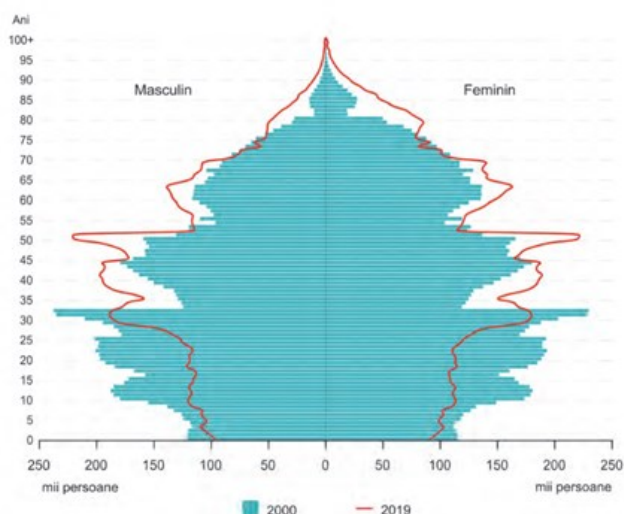*Keywords: hospital activity, use, the elderly, Romania*

To the phenomenon of aging due to the decrease of the birth rate is added the phenomenon of emigration, which reached important proportions with the accession of Romania to the European Union [2].

Figure 1.

The phenomenon of continuous population decline in our country is forecast by Eurostat, which estimates the population of Romania for the year 2100 at a value of 13.3 million inhabitants, the elderly being in large numbers, the increase recorded - from 3.6 million in 2018 to 4.3 million in 2100 [2].

Regarding medical issues, according to Eurostat, at European level, about three quarters of the elderly have chronic health problems, in 2017, 57% of people between 65-74 years and 67% of those between 75-84 years declared

Figura 1.

Source: National Institute for Statistics, Statistical research on the population by household Note: p - for 2019 the data are provisional

such problems [3]. The use of health services is common among them, in 2017, 86.5% of the elderly between 65-74 years and 91.8% of those over 75 years declared the consultation of a general practitioner in the last 12 months, and the consultation of a surgeon was requested by 73.1% of those over 75 years of age. The conditions that required treatment for the elderly over 75 years of age in 2014 were mainly hypertension (52%), osteoarthritis (43.4%) and back problems (38.8%). Females were more affected in conditions such as high blood pressure, osteoarthritis with localizations in the back and neck and depression, while males were predominantly affected by diseases such as myocardial infarction, respiratory diseases and diabetes. Depression also affected a large proportion of the elderly, 6.5% of those up to 75 years and 12.5% of those over this age, and women had almost twice the percentage of this disease (15% compared to 8.8 %), in most countries with a few exceptions, one of which is Romania [3]. From the point of view of requesting hospital care, the elderly had a much higher share of the use of these services than the rest of the population, people over 85 having a higher share than people 65-74 years in all countries except for Romania. In 2017, the price of medical services and waiting lists were the main concerns related to health care for both sexes and all age groups, especially for women over 75 [3]. Among the most common causes of death in this age group, in 2015 we mention: cardiovascular diseases (the most common cause over 75 years), cancer (the most common cause of death between 55-74 years), respiratory diseases, mental illness, diseases of the nervous system and sense organs and diseases of the digestive tract. Death due to a cardiovascular disease affected more women (42.4%), while older men died of cancer (27.7% versus 18.9% women). [3]

The aging population requires the formulation of economic and health policies in line with the needs of the elderly related to their economic and social protection, specific health services and home care for people with disabilities or various forms of disability, and the elderly without family support.

The presented statistics induce the need for analyzes at the level of countries and regions, so that it is possible to adopt effective policies, leading to the management of resources necessary to improve the life of this population in all aspects, economic, medical, social, knowing that the elderly represent extremely valuable human resources, by virtue of the accumulated life and professional experience, an experience that could be easily channeled towards the education and training of the new generations. The National School of Public Health, Management and Professional Development in Health, Bucharest conducted a retrospective study aimed at analyzing the main causes that led to the hospitalization of the elderly in Romanian hospitals in 2019, but also the main causes of death among those hospitalized. Mainly, the medical causes of hospitalizations, as well as those resulting in in-hospital death coincide with those mentioned in the literature.

OBJECTIV

Identification of the main causes of hospitalization and in-hospital death in the elderly, over 65 years old, in Romania, in 2019.

METHODOLOGY

This article is based on a descriptive, retrospective study, which used data from the National DRG Database, data reported in continuous hospitalization by Romanian hospitals in a contractual relationship with the National Health Insurance House. In accordance with the provisions of the Order. no. 1782/576/2006 on the registration and statistical reporting of patients receiving medical services in continuous hospitalization and day hospitalization, with subsequent completions and modifications, NSPHMPDB collects and processes the minimum set of patient-level data for cases treated in continuous and day hospitalization. The results obtained by uni and bivariate analysis focused on the number of hospitalization episodes and the number of hospital deaths among the elderly (people over 65), in Romania, in the aforementioned hospitals (hospitalizations in continuous hospitalization), at the level of 2019. Data were selected using the ICD-10-AM classification and the RO DRG v1 classification (http://drg.ro/index.php?p=clasificaredrg). In a first stage, the selection was made on the main major categories of diagnosis (MCD) which are generally based on a single body system or etiology that is associated with a particular medical specialty: MCD 01 Diseases and disorders of the nervous system, MCD 02 Diseases and disorders of the eye, MCD 03 Diseases and disorders of the ear, nose, mouth and throat, MCD 04 Diseases and disorders of the respiratory system, MCD 05 Diseases and disorders of the circulatory system, MCD 06 Diseases and disorders of the digestive system, MCD 07 Diseases and disorders of the hepatobiliary system and pancreas, MCD 08 Diseases and disorders of the musculoskeletal system and connective tissue, MCD 09 Diseases and disorders of the skin, subcutaneous tissue and breast, MCD 10 Endocrine, nutritional and metabolic diseases and disorders, MCD 11 Diseases and disorders of the kidney and urinary tract, MCD 12 Diseases and disorders of the male reproductive system, MCD 13

Diseases and disorders of the female reproductive system, MCD 16 Diseases and disorders of the blood and hematopoietic organs and immunological disorders, MCD 17 Neoplastic disorders (hematological and solid neoplasms), MCD 18 Infectious and parasitic diseases, MCD 19 Mental diseases and disorders, MCD 20 Alcohol / drug use and mental disorders alcohol / drug induced organisms, MCD 21 Accidents, poisonings and toxic effects of drugs, MCD 22 Burns.

For the analysis (both in terms of the number of hospitalization episodes and the number of in-hospital deaths in the elderly), the three most common categories of diagnosis were selected. In the second stage, on each of these categories was performed the in-depth analysis, on the main diagnosis, showing the most common pathologies registered in each major diagnostic class previously mentioned. The results of the in-depth analysis for both situations are presented in the "Results" chapter.

In accordance with the provisions of Law 190/2018 and of Art. 13 of EU Regulation no. 679/2016, personal data are deleted at the time of transmission to NSPHMPDB, and the identification of persons for the purpose of analysis is based on encrypted personal number code. The age of the patients was calculated in years of age, as the difference between the date of hospitalization and the date of birth.

The data were processed using SQL Server Management Studio Express 2005 software, further processing and analysis was performed using SPSS and Excel, interpretation and presentation were performed in tabular and graphical form.

RESULTS

The interpretation of the data was made in relation to a series of demographic variables of elderly patients (sex, age, area of residence) and characteristics regarding hospitalization episodes (average length of hospitalization, in-hospital mortality rate, state of discharge) recorded in 2019, in hospitals in Romania. The detailed analysis was performed, the results being presented below for the first three major categories of hospitalization of the elderly (in terms of the number of hospitalization episodes), in 2019, namely - MCD 05 Diseases and disorders of the circulatory system, MCD 08 Diseases and musculoskeletal and connective tissue disorders and MCD 01 Diseases and disorders of the nervous system and the first three major categories of hospitalization (in descending order of frequency of occurrence) for which the patient's death was recorded during the hospitalization episode: MCD 05 Diseases and disorders of the circulatory system, MCD 01 Diseases and disorders of the nervous system or MCD 04 Diseases and disorders of the respiratory system.

1. VOLUME OF HOSPITAL ACTIVITY APPRECIATED BY THE NUMBER OF HOSPITALIZATION EPISODES, ROMANIA, YEAR 2019

About 80% of hospitalization episodes in people over 65 years of age had, as a main cause, diseases in

the following 10 categories, in descending order of frequency: MCD 05 Diseases and disorders of the circulatory system, MCD 08 Diseases and disorders of the musculoskeletal system and connective tissue, MCD 01 Diseases and disorders of the nervous system, MCD 04 Diseases and disorders of the respiratory system, MCD 06 Diseases and disorders of the digestive system, MCD 07 Diseases and disorders of the hepatobiliary system and pancreas, MCD 11 Diseases and kidney and urinary tract disorders, MCD 10 Endocrine, nutritional and metabolic diseases and disorders.

Almost half (47%) of hospitalization episodes were caused by a condition belonging to one of the following major categories of diseases: diseases and disorders of the circulatory system, diseases and disorders of the musculoskeletal system and connective tissue, diseases and disorders of the nervous system (graph 1).
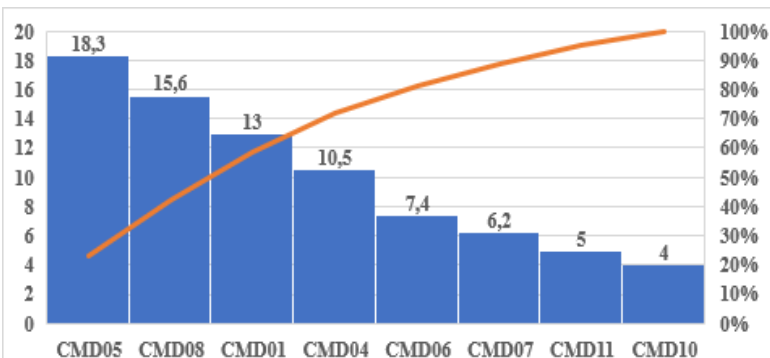
Taking into account the frequency of occurrence, a detailed analysis was performed on each category, the analysis targeting the most common causes of hospitalization. We will present below the analysis of each of the first three causes of hospitalization, depending on a number of socio-demographic parameters, such as the patient's sex, age, place of residence, but also other parameters such as discharge status or length of hospitalization.

1.2. Frequency of episodes of hospitalization of the elderly, due to Diseases and disorders of the circulatory system, in Romania, at the level of 2019
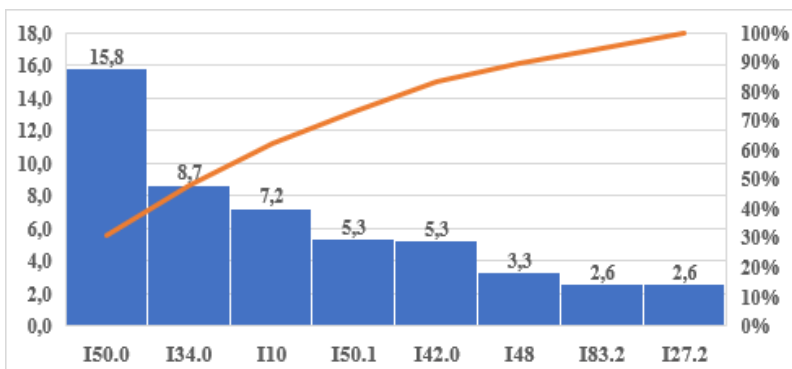
More than half (51%) of all hospitalizations in the MCD05 category Diseases and disorders of the circulatory system were represented by hospitalization episodes determined by diseases with the following ICD10 codes: I50.0 Congestive heart failure (16%), I34.0 Mitral regurgitation (valve) (9%), I10 Essential hypertension (primary) (7%), I50.1 Left ventricular failure (5%), I42.0 Dilated cardiomyopathy (5%), I48 Atrial fibrillation and flutter (3%), I83.2 Varicose veins of the lower extremities with ulceration and inflammation (3%), I27.2 Other secondary pulmonary hypertension (3%) – graph 2.

- Socio-demographic characteristics of elderly patients hospitalized in 2019 due to diseases and disorders of the circulatory system
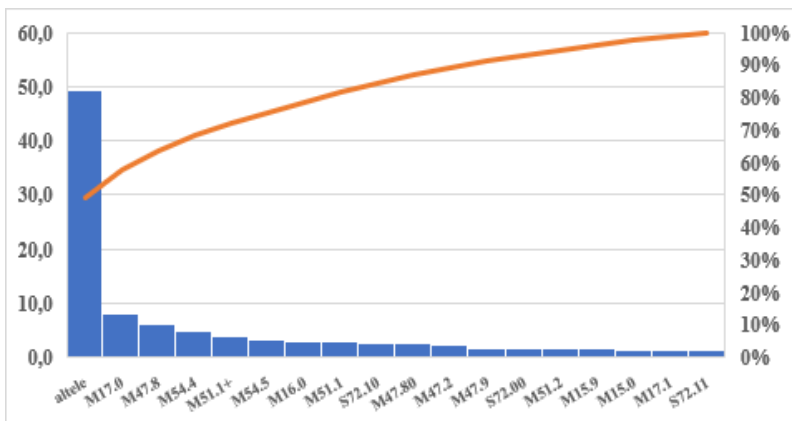
Graph. 1 The share of the number of hospitalization episodes, by the main major categories of hospitalization, in the case of the elderly, in Romania, in 2019
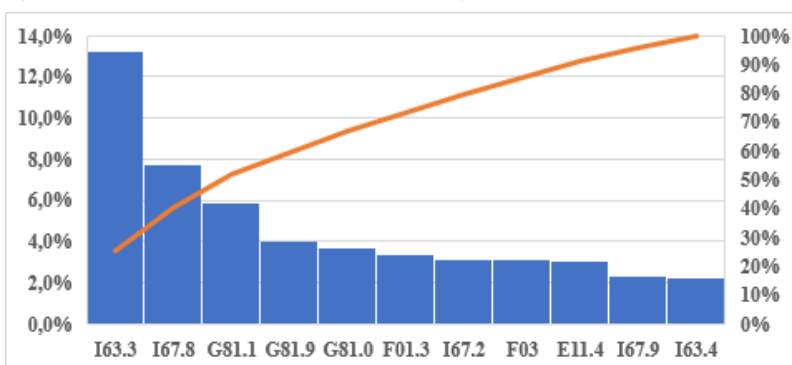
Graph 2 The most common diagnoses in the MCD05 category Diseases and disorders of the circulatory system, in the case of the elderly, in Romania, in 2019

Graph 3 The most frequent diagnoses in the MCD08 category Diseases and disorders of the musculoskeletal system and connective tissue, in the case of the elderly, in Romania, in 2019

Graph 4 The most frequent diagnoses from the MCD 01 Nervous system diseases and disorders, in elderly, in Romania, in 2019

Most elderly people hospitalized in 2019 with cardiovascular diseases included in MCD 05 were women (57%), hospitalized patients with an average age of 77 years and mainly from rural areas (51%).

• Characteristics related to the hospitalization episodes of elderly patients hospitalized in 2019 due to diseases and disorders of the circulatory system

The average duration of hospitalization for these diseases was 8 days, and the vast majority of patients were dis-

charged in an improved condition (91%). Hospitalization episodes resulting in a worsening of health accounted for less than a small percentage of the total (0.7%), and deaths almost a fifth of the total number (4.7%)

1.3. Frequency of episodes of hospitalization of the elderly, by MCD 08 Diseases and disorders of the musculoskeletal system and connective tissue, in Romania, in 2019

From the category of Diseases and disorders of the musculoskeletal system and connective tissue, the first 17 diseases that caused hospitalizations represent more than half of their total. In terms of frequency of occurrence the first three are: M17.0 Primary, bilateral gonarthrosis (8%), M47.8 Other spondylosis with radiculopathy, unspecified location (6%) and M54.4 Lumbago with sciatica (5%), the rest having percentages below 5% - graph 3. Among the other musculoskeletal disorders that have led to frequent episodes of hospitalization we mention: intervertebral disc disorders, hip osteoarthritis or femoral fractures, spondylosis, polyarthrosis.

• Socio-demographic characteristics of elderly patients hospitalized in 2019 for diseases and disorders of the musculoskeletal system and connective tissue

Due to this category of diseases, women were hospitalized three times more than men (76% compared to 24%), coming in similar weights from both areas of residence, the average age of patients being 70 years.
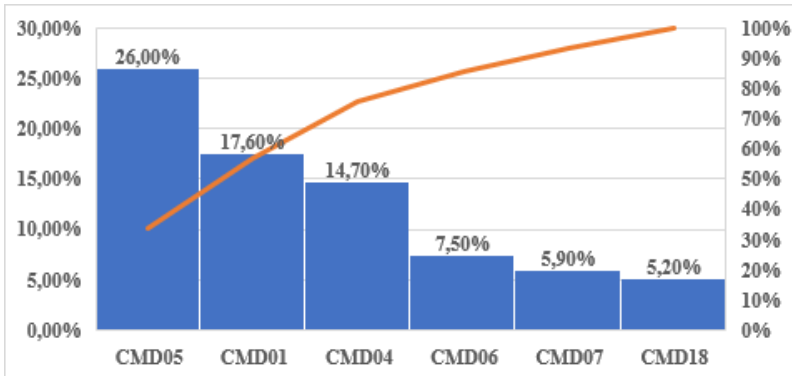
• Characteristics related to hospitalization episodes of elderly patients hospitalized in 2019 for diseases and disorders of the musculoskeletal system and connective tissue

The average duration of hospitalization for these diseases was 11 days, and the vast majority of patients were discharged in an improved condition (96.5%). An extremely small number of hospitalization episodes, less than 1%, resulted in worsening health (18 episodes) or even death (2 episodes).
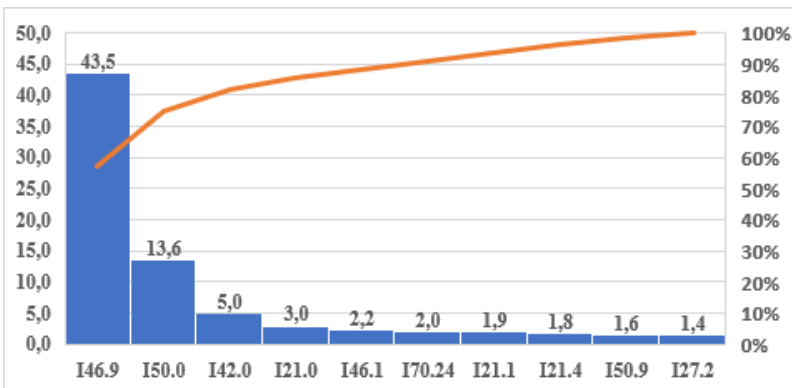
1.4. Frequency of episodes of hospitalization of the elderly, by MCD01 Diseases and disorders of the nervous system, in Romania, in 2019

From the class MCD01 Diseases and disorders of the nervous system, the first 11 diagnoses as a frequency of occurrence among episodes of hospitalization of the elderly in 2019, accounted for more than half of all hospitalizations (52%). The first three places in descending order of frequency of hospitalization episodes are ranked: I63.3Cerebral infarction due to cerebral artery thrombosis (13% of the total), I67.8 Other cerebrovascular diseases, specified (8%) and G81.1Spastic hemiplegia (6%) - graph.4. The rest of the diseases in this class fall
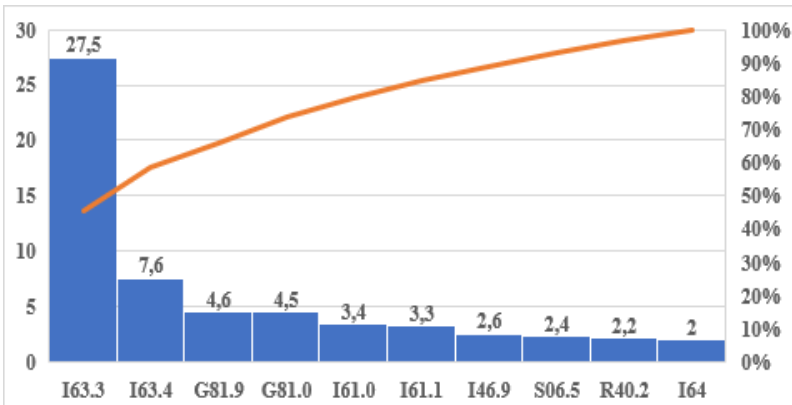
Graph. 5 The share of in-hospital deaths, by major categories of hospitalization, in elderly patients, in Romania, in 2019

Graph. 6 The most frequent diagnoses of hospitalization episodes by MCD05 Diseases and disorders of the circulatory system of the elderly ended by death, in Romania, 2019

Graph 7 The most frequent diagnoses of hospitalization episodes by MCD01 Diseases and disorders of the nervous system for which the patient's death was registered, in Romania, 2019

into the following categories: hemiplegia, dementia, cerebral atherosclerosis, type 2 diabetes with complications, stroke.

- Socio-demographic characteristics of elderly patients hospitalized in 2019 for diseases and disorders of the nervous system

Approximately 54% of the patients hospitalized in 2019 due to this class of diseases were women, the patients coming a little more from rural areas (51% of the total) and having an average age of 77 years.

- Characteristics related to hospitalization episodes of elderly patients hospitalized in 2019 for diseases and disorders of the nervous system

For this category of hospitalization, an average duration of hospitalization of 9 days was registered, and most patients were discharged in an improved state (85%). The percentage of those discharged as aggravated was a small one, of 1.2%, but the share of episodes resulting in death was high, the highest of the first three most common major diagnostic classes - approx. 11%.

2. THE BURDEN OF HOSPITALIZATIONS APPRECIATED BY THE NUMBER OF IN-HOSPITAL DEATHS, ROMANIA, YEAR 2019

More than half (58%) of the hospitalization episodes in the case of persons over 65 years of age that resulted in death in hospital had as main diagnosis diseases from the following 3 major categories of hospitalization, in descending order of frequency: MCD05 Diseases and disorders of the circulatory system (26% of the total), MCD01 Diseases and disorders of the nervous system (17.5%) and MCD04 Diseases and disorders of the respiratory system (14.7%), the rest with percentages below 10% of all these hospitalization episodes. Other categories with lower percentages were MCD06 Diseases and disorders of the digestive system (7.5%), MCD07 Diseases and disorders of the hepatobiliary system and pancreas (approx. 8%) or MCD18 Infectious and parasitic diseases (5.2 %). (graph. 5).
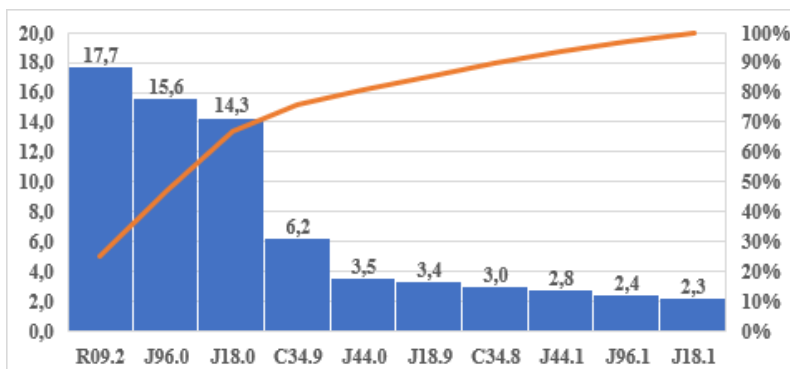
Taking into account the frequency of occurrence, a detailed analysis was performed for each category, the analysis targeting the first three causes of in hospital death. The results of the analysis will be presented below in each of the three categories of diseases that caused the most in-hospital deaths. As a common pattern for patients who died, it can be seen that patients had an average age of 78 years, most (57%) came from urban areas, significantly equal percentages, with a slight predominance of women (50.1%), 97,5% had health insurance.

2.1. Frequency of hospitalization episodes for the elderly resulting in death, by MCD05 Diseases and disorders of the circulatory system, in Romania, at the level of 2019

Almost half (43.5%) of the total number of hospitalizations due to diseases and disorders of the circulatory system resulting in death were represented by hospitalization episodes caused by diseases with the following disease codes: I46.9 unspecified cardiac arrest, 13.6 % I50.0 Congestive heart failure, and 5% Dilated cardiomyopathy, the rest registering less than 5% of the total. Other conditions in this category that resulted in death were I21.0 Acute transmural myocardial infarction of the anterior

Graph no. 8 The most frequent diagnoses of hospitalization episodes by MCD04 Diseases and disorders of the respiratory system of the elderly ended by death, in Romania, in 2019

ders of the nervous system

Most of the elderly hospitalized in 2019 due to diseases and disorders of the nervous system, who died in hospital were women (54%), deceased patients with an average age of 79 years and mostly from urban areas (52 %).

• Characteristics related to hospitalization episodes of elderly patients hospitalized in 2019 for diseases and disorders of the nervous system and resulting in death

The average duration of hospitalization of patients who died of these diseases was 10 days.

wall, I46.1 Sudden cardiac death, as described, I70.24 Atherosclerosis of the arteries of the extremities with gangrene, I21.1 Acute transmural myocardial infarction of the inferior wall, I21.4 Acute subendocardial myocardial infarction, I50.9 Heart failure, unspecified, I27.2 Other secondary pulmonary hypertension – graph 6.

• Socio-demographic characteristics of elderly patients who died in hospital in 2019 due to diseases and disorders of the circulatory system

Most of the elderly who died during hospitalization due to diseases and disorders of the circulatory system, in 2019, were women (52%), their average age being 78 years and coming mainly from urban areas (57 %).

• Characteristics related to the hospitalization episodes of elderly patients hospitalized in 2019 for diseases and disorders of the circulatory system and resulting in death

The average duration of hospitalization of those who died from these diseases was 11 days.

2.2 Frequency of hospitalization episodes for the elderly resulting in death, by MCD01 Diseases and disorders of the nervous system, in Romania, 2019

Almost one third of the total number of hospitalizations completed by a death, in the category of MCD01 Nervous system disorders and disorders, were caused by I63.3 Cerebral infarction due to cerebral artery thrombosis (27.5%), followed by I63.4 Cerebral infarction due to cerebral artery embolism (7.6%), G81.9 Hemiplegia, unspecified (4.6%), G81.0 Flaccid hemiplegia (4.5%), the rest registering less than 3% (I61.0 Intracerebral hemorrhage in the hemispheres, subcortical, I61.1 Intracerebral hemorrhage in hemispheres, cortical, I46.9 Cardiac arrest, unspecified, S06.5 Traumatic subdural haemorrhage, R40.2 Coma, unspecified, I64 Stroke, unspecified as haemorrhagic or infarct) - graph 7.

• Socio-demographic characteristics of elderly patients who died in hospital in 2019 due to diseases and disor-

2.3 Frequency of hospitalization episodes for the elderly resulting in death, by MCD04 Diseases and disorders of the respiratory system, in Romania, in 2019

In this category, the first 3, the most frequent pathologies for which the in-hospital death occurred, in descending order, were represented by: R09.2 Respiratory arrest (17.7%), J96.0 Acute respiratory failure (15.6%) and J18.0 Bronchopneumonia, unspecified (14.3%). Under one tenth, the following codes were recorded: C34.9 Malignant tumor of the bronchi and lungs, unspecified, J44.0 Chronic obstructive pulmonary disease with acute lower respiratory tract infection, J18.9 Pneumonia, unspecified, C34.8 Malignant tumor exceeding bronchi and lung, J44.1 Chronic obstructive pulmonary disease with acute exacerbation, unspecified, J96.1 Chronic respiratory failure or J18.1Lobar pneumonia, unspecified.

• Socio-demographic characteristics of elderly patients hospitalized in 2019 for diseases and disorders of the respiratory system and deceased in hospital

Most of the elderly hospitalized in 2019 due to respiratory diseases and disorders, who died during the hospitalization episode were men (57%), patients who died with an average age of 77 years, mostly from urban areas (59%).

• Characteristics related to hospitalization episodes of elderly patients hospitalized in 2019 for diseases and disorders of the respiratory system and resulting in death

The average duration of hospitalization for these diseases was 10 days.

CONCLUSIONS

The present study identified the most common causes of hospitalization that led to hospitalizations among the elderly in Romania in 2019, but also the most common causes of in-hospital death during this period. Thus, the most common categories of hospitalization that required hospitalization of patients over 65 years were: diseases and disorders of the circulatory system, diseases and disorders of the musculoskeletal system and connective tissue, diseases and disorders of the nervous system. Among the most common cardiovascular diseases,

hospitalized patients presented with congestive heart failure, valvopathies such as mitral regurgitation or primary hypertension as the main diagnosis of hospitalization. With lower weights appear as the main diagnosis and dilated cardiomyopathy, arrhythmias such as atrial fibrillation, flutter, venous involvement of the lower limbs with ulceration and inflammation or pulmonary hypertension. Most hospitalizations with this diagnosis were suffered by women, the average age of patients being 77 years, most of them from rural areas. The average length of hospital stay was 8 days, with most patients being discharged as ameliorated, while one-fifth died.

Among the patients hospitalized for diseases and disorders of the musculoskeletal system and connective tissue, most had osteoarthritis, most commonly located in the knee or hip and spinal disorders such as spondylosis with radiculopathy or sciatica, but also damage to the intervertebral discs. This type of disease determined the hospitalization of a large number of women, the average age of hospitalized patients being lower, 70 years, the distribution by area of residence being similar, and the average length of hospitalization of 11 days. There were extremely few cases of aggravation or even death.

And the diseases in the category of diseases and disorders of the nervous system have led to a large number of hospitalizations, most commonly for thrombotic cerebral infarction or hemiplegia, but also for dementia, cerebral atherosclerosis or cerebral complications of type 2 diabetes. The average age of these patients was 77 years old, predominantly women and patients from rural areas. The average length of hospitalization was 9 days, most cases were discharged as ameliorated, but the number of deaths was the highest of the three major diagnostic categories that determined the most episodes of hospitalization.

From the point of view of the diseases that caused the most in-hospital deaths, we mention: diseases and disorders of the circulatory system, representing a quarter of the total, diseases and disorders of the nervous system, almost a fifth and diseases and disorders of the respiratory system, more than a tenth of total. The average age of patients who died in the hospital was 78 years, most came from urban areas, with a slight preponderance of women.

Among cardiovascular diseases, the most common deaths were recorded in patients with the main diagnosis: unspecified cardiac arrest, congestive heart failure, dilated cardiomyopathy, but also acute myocardial infarction, sudden heart death, or heart failure. Patients who died with such diagnoses had an average age of 78 years, women predominated, came mostly from urban areas and were hospitalized for an average of 11 days.

In the category of diseases and disorders of the nervous system most deaths occurred by cerebral infarction due to thrombosis or cerebral artery embolism, in patients with hemiplegia, traumatic intracerebral or subdural hemorrhage, coma, unspecified or stroke, unspecified as hemorrhagic or infarct. Their average age was 79 years, women predominated, patients from urban areas, and the average length of hospitalization was 10 days.

And the diseases and disorders of the respiratory system have caused a significant number of deaths among the elderly, most often death due to respiratory arrest, acute or chronic respiratory failure, bronchopneumonia, malignant tumors of the bronchi and lungs, chronic lung disease obstructive with acute lower respiratory tract infection. Thus, in this category, several men died, the average age of patients being 77 years, coming mainly from urban areas, and the average duration of hospitalization was 10 days.

The in-depth analysis of the hospital activity must provide an overview, but at the same time a comparative image of the causes of hospitalization and in-hospital death by age groups (children, adults, the elderly). Decisions on the allocation of resources and their use at the hospital sector level must be supported by valid, up-to-date records, and taking into account the particularities in the use of hospital services by different age groups.

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