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Health Problems of 80 Plus Patients Reporting to the Hospital Emergency Department, Including Neurological Problems

Problemy zdrowotne pacjentów 80 plus zgłaszających się do szpitalnego oddziału ratunkowego, w tym problemy neurologiczne

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Abstract

Introduction. The subject of this wok includes health problems occurring in patients over 80 years of age reporting to the hospital emergency department with an indication of neurological problems.
Aim. The aim of this study is to present health problems, including neurological problems, with which patients over 80 years of age report to the hospital emergency department (ER), the most common reasons for hospitalization and how to get to ER.
Material and Methods. An analysis of the health situation of patients over 80 years of age was performed who reported to the Hospital Emergency Department of the 10th Military Clinical Hospital with the Polyclinic in Bydgoszcz. The necessary data was obtained by accessing the medical documentation contained in the KS-Medis hospital system. The relationship between the two variables was calculated using Spearman rank correlation coefficient.
Results. 80 plus (58%) women most often come to the hospital emergency department because of a fall (11%), brought by a medical emergency system transport (67%). Neurological or co-existing neurological problems (head injuries, strokes or their suspicion) are 6% of the causes of emergency hospitalization.
Conclusions. Reasons for seniors over 80 years of age reporting to the hospital emergency department are varied, but falls are dominant. **(JNNN 2020;9(1):27–32)**
Key Words: 80 plus senior, hospital emergency department, neurological problems

Streszczenie

Wstęp. Tematyka niniejszej pracy obejmuje problemy zdrowotne występujące u pacjentów powyżej 80 roku życia zgłaszających się do szpitalnego oddziału ratunkowego ze wskazaniem na problemy neurologiczne.
Cel. Celem niniejszej pracy jest przedstawienie problemów zdrowotnych, w tym neurologicznych z jakimi zgłaszają się pacjenci powyżej 80 roku życia do szpitalnego oddziału ratunkowego (SOR), najczęstszych przyczyn hospitalizacji oraz sposobu dotarcia do SOR.
Materiał i metody. Dokonano analizy sytuacji zdrowotnej 100 pacjentów, w wieku 80 lat i więcej, którzy zgłosili się do Szpitalnego Oddziału Ratunkowego 10 Wojskowego Szpitala Klinicznego z Polikliniką w Bydgoszczy. Dane uzyskano poprzez wgląd do dokumentacji medycznej zawartej w systemie szpitalnym KS-Medis. Współzależność pomiędzy dwiema zmiennymi obliczono za pomocą współczynnika korelacji rang Spearmana.
Wyniki. Do szpitalnego oddziału ratunkowego najczęściej zgłaszają się kobiety 80 plus (58%), z powodu upadku (11%), dowiezione transportem systemu ratownictwa medycznego (67%). Problemy neurologiczne samoistne lub współistniejące (urazy głowy, udary lub ich podejrzenie) to 6% przyczyn hospitalizacji nagłych.
Wnioski. Przyczyny zgłaszania się seniorów po 80 roku życia do szpitalnego oddziału ratunkowego są zróżnicowane, ale dominują upadki. **(PNN 2020;9(1):27–32)**
Słowa kluczowe: senior 80 plus, szpitalny oddział ratunkowy, problemy neurologiczne

Introduction

The elderly often struggle with problems resulting from their limited functionality and independence associated with great geriatric syndromes, i.e. cardiovascular disease, cancer, diabetes, imbalance, locomotion impairment, falls, dementia, depression, insomnia, and urinary and stool incontinence, vision and hearing impairment, pressure ERes, and night cramps. Often, the symptoms coexist with each other and occur in a chronic manner, which may affect the effectiveness of their treatment [1,2].

Aging processes affect the entire human body, including senERy organs and the nervous system. Aging of senERy organs is characterized by the occurrence of complex deficits in their functioning, usually manifesting themselves slowly. In the vision organ, the elasticity of the lens decreases and the size of the pupil is reduced. The sensitivity to colours, the ability to see at a distance and adaptation to see at a distance deteriorate. Long-sightedness of the old age, the weaker accommodation of the lens is getting worse, its clouding are the irreversible processes causing difficulties in reading. The auditory ossicles degenerate, the auditory nerve is impaired, which makes the distinction between sounds, hearing high sounds and speech understanding in noise deteriorate [1–3].

The brain is not able to replace dying neurons. Another thing that reduces the functionality of the brain is the reduction in the number of glial cells, which provides nutrients and mediates neurotransmission. This leads to a slowdown in information processing, memory impairment. Alzheimer's disease and other primary dementias belong to separate brain diseases in both clinical and biochemical terms and are not the result of aging. Brain mass is reduced by losing part of the nerve cells. The number of neurons in grey matter decreases and the number of intercellular connections decreases. It slows down nerve conduction and psychomotor activity. The demand for sleep time is often noticeable, especially in the REM phase [3].

The aim of the study is to present the health problems of 80 plus seniors who report to the hospital emergency department, examinations that were carried out in them and specialist consultations.

Material and Methods

An analysis of the health situation of patients over 80 years of age was performed who reported to the Hospital Emergency Department of the 10th Military Clinical Hospital with the Polyclinic in Bydgoszcz. The necessary data was obtained by accessing the medical documentation contained in the KS-Medis hospital system. Demographic data: gender and place of residence were analysed, both for patients brought by the emergency medical team and self-reporting. Other data that were interpreted were initial diagnosis, diagnosis made at discharge, consultations that the patient had while being in the hospital emergency department. Other data that were in the range of interest was whether the patient was hospitalized at the 10th Military Clinical Hospital with the Polyclinic or whether further treatment was carried out at home. The research method used in the study is documentation analysis. The relationship between the two variables was calculated using Spearman rank correlation coefficient and test U Manna–Whitneya.

Results

Sociodemographic Characteristics

Women dominated in the studied group — 58.0%. The average age of the patients over 80 years of age hospitalized in the Hospital Emergency Department was — 85.8 years. The standard deviation accounted for over 3.3% of the average value, which indicates a slight age diversity. On average, men with an average age of 85.9 years turned out to be older, with the average age of women — 85.7 years there was a difference of 3 months. The minimum identical age — 80 years, the maximum varied, higher in the group of men — 95 years. The subjects were divided into three age groups: 80–84 years, 85–89 years and 90 years and more. The most numerous group were respondents aged 85–89 — 59.0%, the least numerous at the age of 90 and more.

Clinical Data

The vast majority of patients were brought to the Emergency Room by an ambulance — 67.0%, the least based on a referral — 15.0% (Table 1).

There was no statistically significant difference between men and women regarding the way to get to ER ($p>0.05$). The age of the patients did not have a statistically significant correlation with the results of the methods of getting to the ER ($p>0.05$).

Table 1. Way of getting into the ER

Way of getting into the ER	N	%
Emergency	67	67.0
On their own	18	18.0
Referral	15	15.0
Total	100	100.0

Most patients got to the ERdue to a fall — 11.0%. Followed by dyspnoea — 7.0% and craniofacial injury — 4.0%. Followed by chest pain, abdominal pain, shortness of breath when walking and poor exercise tolerance, hyponatraemia, palpitations, atrial fibrillation, weakness, head injury, fainting and femoral fracture — 2.0% each. Others included individual cases (Table 2).

Table 2. Initial diagnosis

Diagnosis	N	%
Falling	11	11.0
Dyspnoea	7	7.0
Craniofacial injury	4	4.0
Head injury	2	2.0
Femur fracture	2	2.0
Abdominal pain	2	2.0
Palpitations	2	2.0
Hyponatremia	2	2.0
Weakness	2	2.0
Shortness of breath while walking, poor effort tolerance	2	2.0
Atrial fibrillation	2	2.0
Fainting	2	2.0
Chest pain	2	2.0
Other	58	58.0
Total	100	100.0

There was no statistically significant difference between men and women regarding the results of the initial diagnosis (p=0.642).

The age of patients was not statistically significantly correlated with the results of the initial diagnosis (p=0.263) (Table 3).

Table 3. Correlation of age with various data

Issue	N	R	t(N–2)	p
Initial diagnosis results	100	0.113	1.126	0.263
Type of consultations	100	–0.149	–1.494	0.138
Number of consultations	100	0.183	1.846	0.068
Type of test	97	0.087	0.856	0.394
Number of tests	100	0.106	1.051	0.296
Discharge home	100	–0.062	–0.614	0.540
Hospitalization	100	0.062	0.614	0.540
Hospitalization ward	47	0.227	1.563	0.125

p — test R-Spearmana

During the stay in the ER, patients were given specialist consultations. Some more than one. There was a total of 175 consultations. The most frequently indicated were cardiological consultations — 45 people, which constituted 25.7% of all consultations. Further, reference was made to internal medicine consultations — 39 people (22.3%) and neurological consultations — 23 people (13.1%). To the least extent for gastroenterological consultations — 2 people (1.1%) and cardio-surgical — 1 person (0.6%) (Table 4). Most patients had one — 48.0% or two consultations — 34.0%, the least four consultations — 5.0%. There were no statistically significant differences between men and women regarding both the type and number of consultations (respectively, p=0.771 and p=0.419).

Table 4. Consultations of geriatric patients in the Emergency Room

Consultations	N	%
Cardiological	45	25.7
Internal medicine	39	22.3
Neurological	23	13.1
Surgical	12	6.9
Orthopaedic	12	6.9
Pulmonary	8	4.5
Neurosurgical	6	3.4
Urological	6	3.4
Gastrological	5	2.9
Laryngological	5	2.9
Ophthalmologic	5	2.9
Anaesthesiologic	3	1.7
Psychiatric	3	1.7
Gastroenterological	2	1.1
Cardiosurgical	1	0.6
Total	175	100.0

The age of patients was not statistically significantly correlated with the results, either of the type or number of specialist consultations (respectively, p=0.138 and p=0.068). The result of the number of consultations held at the significance boundary (Table 3).

The vast majority of patients had laboratory tests — 83.0%. There was no statistically significant difference between men and women regarding the performance of laboratory tests (p>0.05). The age of patients was not statistically significantly correlated with the results of laboratory tests (p>0.05).

During the ERstay and consultations, the patients had diagnostic tests. Some more than one. In total, 169 diagnostic tests were performed. X-ray examination was most frequently indicated — 62 people, which constituted 36.7% of all performed examinations. Further, the EKG examination was indicated — 44

people (26.0%) and the CT — 34 people (20.2%). The echocardiogram was indicated in the smallest degree — 4 people (2.3%) (Table 5).

Table 5. Diagnostic tests

Diagnostic tests	N	%
RTG	62	36.7
EKG	44	26.0
CT	34	20.2
USG	25	14.8
ECHO	4	2.3
Total	169	100.0

Most patients had one — 45.0% or two diagnostic tests — 35.0%, the least four or none at all — 3.0%

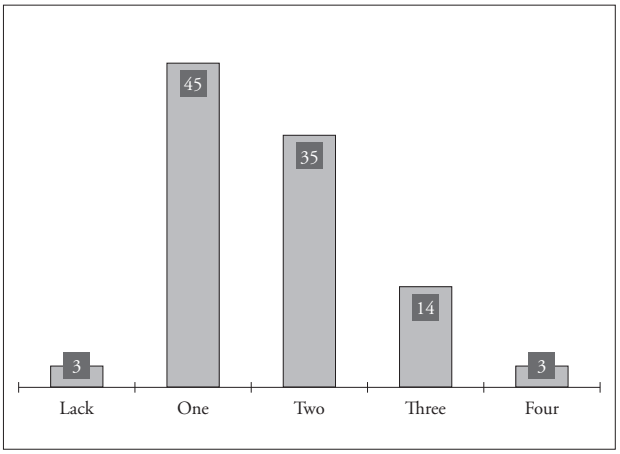

Figure 1. Characteristics of the number of diagnostic tests

each (Figure 1).

There were no statistically significant differences between men and women regarding both the type and number of diagnostic tests (respectively, p=0.118 and p=0.848).

The age of patients was not statistically significantly correlated with the results of both the type of diagnostic tests and their number (respectively, p=0.394 and p=0.296) (Table 3).

In the case of 5.0% of patients, the operating theatre was used. There was no statistically significant difference between men and women regarding the use of the operating theatre (p>0.05). The age of the patients was not statistically significantly correlated with the results of the use of the operating theatre (p>0.05).

After receiving help in the ER department, more than half of the patients were discharged home — 53.0% (Figure 2).

There was no statistically significant difference between men and women regarding discharge home (p=0.270).

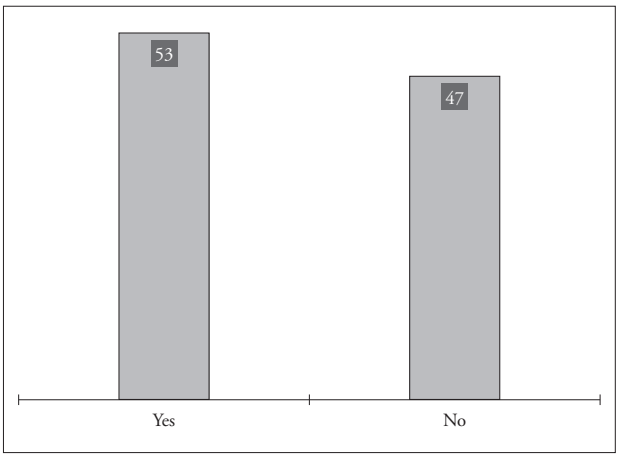

Figure 2. Characteristics of the discharge home

The age of the patients was not statistically significantly correlated with the results of discharge home (p=0.540) (Table 3).

After receiving help in the ER department, almost every second patient was hospitalized in the ward — 47.0%. There was no statistically significant difference between men and women in terms of hospitalization (p=0.270).

The age of patients was not statistically significantly correlated with hospitalization results (p=0.540) (Table 3).

Most patients were referred to the cardiology department — 9 people (19.1%), stroke and internal medicine departments — 6 people each (12.8% each) and the intensive care unit and orthopaedics department — 5 people each (10.6% each). The least to the ICU department, gastroenterology department, neurosurgery department, cardiac surgery department and OITP department — 1 person each (2.1% each) (Table 6).

Table 6. Hospitalization ward

Ward	N	%
Cardiological	9	19.2
Internal	6	12.8
Stroke	6	12.8
OIOK (intensive cardiological care)	5	10.6
Orthopaedics	5	10.6
Neurology	4	8.5
Pulmonology	3	6.4
Gastrologic	2	4.3
Surgical	2	4.3
Cardiosurgical	1	2.1
Gastroenterology	1	2.1
ICU	1	2.1
Neurosurgical	1	2.1
OITP	1	2.1
Total	47	100.0

There was no statistically significant difference between men and women regarding hospitalization departments (p=0.832).

The age of patients was not statistically significantly correlated with the results of hospitalization wards (p=0.125) (Table 3).

The chronic heart failure was observed in the largest number of patients — 8.0% and after a fall, femoral fracture — 5.0% each and pneumonia — 4.0%. Then, conjunctivitis, ischemic stroke, heart failure, decompensated diabetes, atrial fibrillation and anaemia — 3.0% each. Followed by the condition after the head injury, hyponatraemia, lumbar corset for verticalization, haemorrhagic stroke, atrioventricular block, gastrointestinal bleeding, urinary tract infection and chronic obstructive pulmonary disease with acute lower respiratory tract infection — 2.0% each. Others are individual cases (Table 7).

Table 7. Final diagnosis

Diagnosis	N	%
Chronic heart failure	8	8.0
Femoral fracture	5	5.0
Condition after the fall	5	5.0
Pneumonia	4	4.0
Conjunctivitis	3	3.0
Ischemic stroke	3	3.0
Uncontrolled diabetes	3	3.0
Atrial fibrillation	3	3.0
Anaemia	3	3.0
Condition after head injury	2	2.0
Hyponatremia	2	2.0
Lumbar corset for verticalization	2	2.0
Haemorrhagic stroke	2	2.0
Atrioventricular block	2	2.0
Gastrointestinal bleeding	2	2.0
Urinary tract infection	2	2.0
Chronic obstructive pulmonary disease with acute lower respiratory tract infection	2	2.0
Condition after head injury	2	2.0
Other	45	45.0
Total	100	100.0

Here was no statistically significant difference between men and women regarding the final diagnosis (p>0.05). The age of the patients was not statistically significantly correlated with the results of the final diagnosis (p>0.05).

Discussion

Elderly people whose ailments arising from aging process occurred in a sudden, unpredictable way getting to the hospital emergency department require a unique approach of medical personnel, contact with it is difficult, and the specification of work in the hospital emergency department requires quick action, which is not conducive to communication with an 80-year-old patient or older. Therefore, the stay of an elderly patient under the conditions of a hospital emergency department places greater demands on medical staff.

The analysis of the documentation shows that it was more often women over 80 years of age who used the help of the hospital emergency department — 58%, men constituted 42%. Comparing these data with the research carried out in the Lublin voivodeship, women constituted 57% and men 43% of the examined group of people hospitalized in the hospital emergency department of the Clinical Hospital of Jan Mikulicz-Radecki in Wrocław. The oldest person hospitalized in the hospital emergency department was 106 years old [4].

In the study group described in this study, 31% were people aged 80–84 and 59% people aged 85–89, while 10% were people over 90 years old. The oldest person studied was 95 years old.

Among the reasons for reporting to the hospital emergency department at the Wrocław Clinical Hospital of Jan Mikulewicz-Radecki, most common were cardiovascular diseases, among which the predominant diagnosis was atrial fibrillation/flutter. Referring to data collected for the purposes of this study, the majority of patients (11%) went to the hospital emergency department due to a fall, 7% were patients with dyspnoea, 4% were patients with craniofacial injuries, and the remaining cases were individual.

Falls are a big social problem affecting the elderly. Factors predisposing seniors to the possibility of injury are: weakening of muscular strength in the lower limbs, gait disturbances, vision problems, taking some medications, including sleeping pills and sedatives. According to Żakowska, the risk of falling increases with age, every second person over 85 suffers from a fall [5]. The study confirms that falls are the most common cause of hospitalization for people over 80 years of age.

Conclusions

Based on the analysis of the obtained data, which were subjected to statistical analysis, the following conclusions were drawn.

1. Women constituted a larger group (58%) of people reporting to the hospital emergency department of the 10th Military Clinical Hospital with the

Polyclinic in Bydgoszcz, and their average age was 85.7 years.
2. The analysis of the collected data shows that patients over 80 years of age reported to the hospital emergency department of the 10th Military Clinical Hospital with the Polyclinic in Bydgoszcz due to a fall (11%).
3. Patients were more frequently transferred to the Hospital Emergency Department by emergency medical teams (67%), and less often they reported themselves or with family assistance (18%).
4. Most patients were taken to the hospital emergency department due to falling (11%). Shortness of breath was the second reason for people over 80 to come to the hospital ward (7%). However, taking into account the final diagnosis, circulatory failure dominated among those hospitalized in the hospital emergency department.
5. Cardiological consultation was most often recommended for patients over 80 years of age.
6. Over half (53%) of patients did not require admission to hospital wards.
7. Patients who required hospitalization most often went to the cardiology department.

Implications for Nursing Practice

Along with demographic changes resulting in a dynamic increase in the elderly population, more and more attention is being paid to patients in this age group. Nursing care over elderly people due to the occurrence of complex health, nursing and socio-psychological problems is a challenge. Older adults whose ailments arising from the aging process occurred in a sudden, unpredictable way going to the hospital emergency department require a unique approach of medical personnel, contact with it is difficult, and the specification of work in the hospital emergency department requires quick action, which is not conducive to communication with patient. This situation is a challenge for medical staff, which is why research in this area is so important.

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