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Health problems of the elderly aged 65-75 years supervised by a community nurse

Problemy zdrowotne i pielęgnacyjne osób starszych w wieku 65-75 lat objętych opieką pielęgniarki środowiskowej

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Abstract

Introduction. *The aging population is one of the major causes of increased demand for medical services provided by nurses in the home environment.* ***Aim.*** *Assessment of health problems and the care of older people aged 65-75 years in their living environment.* ***Material and methods.*** *The study involved 101 people in early old age (65-75 years). The study used diagnostic survey method employing survey techniques. Rated were: functional and instrumental efficiency (ADI and IADL), mobility and balance (scales NE ADE Index and Tinetti), mental alertness and the occurrence of depression (GDS scales and AMTS).* ***Results.*** *The study of functional capacity for basic activities of daily living (ADL) and tests of the instrumental efficiency (IADL) showed that the vast majority of respondents (46.5%; n = 47) was moderately incapacitated or partially operational, while 18.8 % (n = 19) respondents were significantly inefficient. Most of the surveyed elderly were independent. The risk of falls in 16.8% (n = 17) was high and involved more males (p < 0.05). In most patients a correct status in terms of mental capacity - 65.4% (n = 66) was recorded. Disturbances in this region were significantly associated with later age (p < 0.05). In the assessment of depression, the majority of respondents, 81.1% (n = 82) did not show its symptoms.* ***Conclusions.*** *In the group of seniors remaining in the living environment under the supervision of a community nurse, the most important health problems and care included: numerous and varied symptoms of disease reported by the elderly, moderate disability functional in terms of activities of daily living and instrumental fitness in almost half of the respondents, susceptibility to falls in about 29% and a high risk of falls of about 17%, moderate impairment of mental function in more than 25%. (Gerontol Pol 2016; 24: 17-25)*

Key words: *the elderly, the family nurse, health problems, nursing problems*

Streszczenie

Wstęp. *Starzenie się społeczeństwa stanowi jedną z głównych przyczyn powodujących wzrost zapotrzebowania na usługi medyczne świadczone przez pielęgniarki w środowisku domowym.* ***Cel pracy.*** *Ocena problemów zdrowotnych i pielęgnacyjnych osób starszych w wieku 65-75 lat w ich środowisku zamieszkania.* ***Materiał i metoda.*** *Badaniami objęto 101 osób w okresie wczesnej starości (65-75 r.ż.). W pracy zastosowano metodę sondażu diagnostycznego z wykorzystaniem techniki ankiety. Oceniono: sprawność funkcjonalna i instrumentalna (skale ADL i IADL), mobilność i zdolność zachowania równowagi (skale NE ADE Index i TINETTI), sprawność umysłową i występowanie depresji (skale AMTS i GDS).* ***Wyniki.*** *Badania sprawności funkcjonalnej w zakresie podstawowych czynności życia codziennego (ADL) oraz w teście sprawności instrumentalnej (IADL) wykazały, że zdecydowana większość badanych (46,5%; n = 47) była umiarkowanie niesprawna lub częściowo sprawna, natomiast 18,8% (n = 19) respondentów było znacznie niesprawnych. Większość badanych osób starszych jest samodzielnych. Ryzyko upadków u 16,8% (n = 17) było wysokie i częściej dotyczyło mężczyzn (p < 0,05). U większości badanych stwierdzono stan prawidłowy w zakresie sprawności umysłowej - 65,4% (n = 66). Występowanie zaburzeń w tym obszarze było związane z późniejszym wiekiem (p < 0,05). W ocenie*

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występowania depresji, większość badanych, bo aż 81,1% (n = 82) nie przejawiała jej objawów. ***Wnioski.*** *W badanej grupie seniorów pozostających w środowisku zamieszkania pod opieką pielęgniarki środowiskowej najistotniejsze problemy zdrowotne i pielęgnacyjne obejmują: liczne i zróżnicowane dolegliwości chorobowe zgłaszane przez osoby starsze, umiarkowaną niesprawność funkcjonalną w zakresie czynności życia codziennego oraz sprawności instrumentalnej u prawie połowy badanych, skłonności do upadków u około 29% oraz wysokie ryzyko upadków u około 17%, upośledzenie umiarkowane sprawności umysłowej u ponad 25%. (Gerontol Pol 2016; 24: 17-25)*

Słowa kluczowe: *osoby starsze, pielęgniarka rodzinna, problemy zdrowotne, problemy pielęgnacyjne*

Introduction

Health problems of the elderly, treatment and nursing of the elderly are in today's world more current issues. To help people in older age, there needs to be developed a system of care that clearly identifies the tasks of doctors, nurses, psychologists, occupational therapists, physiotherapists, social workers and volunteers [1]. In developed countries, there are a variety of organizational forms of care for the elderly, which play a significant role, in particular, professionally prepared nurses who take care of and provide assistance in the natural environment of seniors' lives. Various forms of institutional care and social services to support the health needs of the elderly are also being gradually developed in Poland. In connection with the growth of the geriatric population, a correct orientation of health policy and social assistance and the problems of this age group need to be implemented [2]. The aging population is one of the major causes of increased demand for medical services provided by nurses in the home environment [3].

Furthermore, recent changes in the functioning of health care in Poland, meaning the restructuring of hospital treatment and, consequently, the elimination of many departments for the chronically ill, resulted in an increased demand for nursing services in the structure of primary health care. The best environment for a person in old age is his home, where he feels safe and secure, provided that he has a family/ caregivers who surround them with care and available institutional system reactive to the changing health needs of people in geriatric age [4].

Health problems and care of the elderly may cause a progressive decline in the quality of life of seniors, and may refer to the following functional areas: biological zone (e.g. deficits in standalone making life activity, restriction of mobility, immobility etc.), psychiatric (e.g. mood disorder, depressive disorders, impaired memory, concentration or low self-esteem) and social sphere (including loneliness, a sense of social alienation, lack of care on the part of the next of kin, economic problems) [2].

Aim

Assessment of health problems and the care of older people aged 65-75 years in their living environment in terms of: disease symptoms, functional and instrumental capacity, mobility and balance, mental function and depression and their analysis, depending on the selected socio-demographic features.

Methods

The study involved 101 elderly people in early retirement (65-75) in Podkarpackie (in Stalowa Wola - the urban environment and the nearby rural surroundings) covered by the nursing care in the home environment. The criteria for selection of respondents for the research was completed 65 years of age, psychophysical state allowing testing at home and consent of seniors to participate in the study. The study used diagnostic survey method using survey techniques. Research tools were a questionnaire and standardized Comprehensive Geriatric Assessment. Problems of nursing care of people over 65 years of age were evaluated in the following areas:

- **Functional and instrumental efficacy**

To evaluate the efficiency of the basic activities of daily living a scale was used (ADL - Activities of Daily Living), which analyzes the following: bathing, dressing, using the toilet, moving around, controlling sphincters and food. Two possible answers: were distinguished "independent" and "dependent". Each response "independent" was assigned 1 point, "dependent" 0 points [5]. The maximum number of points, which may be gained, was 6. The results of ADL were divided into 3 categories, "disabled persons", "moderately incapacitated person" and "persons substantially incapacitated" in the ranges of point 5-6, 3-4, ≤ 2.

To evaluate the complex activities of daily living, or the instrumental functioning, IADL scale was used (Instrumental Activities of Daily Living scale Lawton). The characterization of steps: using your phone to re-

ach places beyond walking distance, shopping, preparing meals, doing housework, DIY, preparing and taking medications and managing money. There were three possible responses concerning the capacity to perform the operations "without the aid of" - 3 points, "with help" - 2 points, and "can not perform it" - 1 point. The maximum number of points that you can gather is 24 [5]. IADL scale used by the authors had been categorized by Fillenbaum et al. [6] The IADL results were divided into three categories, "seriously dependent," "moderately dependent", "almost independent", in the ranges respectively of 24-18, 17-10, 9-0 points.

- **Mobility and the ability to maintain balance**

Using the Index of Daily Activities Nottingham (Nottingham Extended ADL Index), in tested seniors, 21 operations were rated in four subscales: mobility, the kitchen activities, activities associated with running a household, leisure time activities. Each area was assessed on a scale of 0-3, where a higher score meant ore independence [6, 7].

Tinetti test was used in order to evaluate the mobility (in terms of maintaining balance and gait) [8]. The test result could also facilitate the prediction concerning the risk of falls in the elderly. The maximum score achieved in the assay is 28 points (16 + 12 from both parts of the test).

- **Mental efficiency and occurrence of mental depression**

To evaluate the mental state the shortened test of mental agility by Hodgkinson was used (Abbreviated Mental Test Score - AMTS). The test contained 10 questions, where the respondent for each correct answer got 1 point [9]. The maximum number of points was 10. The results of > 6 points should be interpreted as a "normal state" point interval of 4- 6 as a "moderate disability" and 0 - 3 points - "severe impairment".

The occurrence of depressive symptoms was assessed using a 15-point Geriatric Depression Rating Scale (GDS) created by J. Yesavage. According to the current guidelines adopted, 5 on the GDS scale expresses a presence of depressive symptoms [10].

The research was voluntary and anonymous. An environmental health nurse informed seniors verbally about the aim of the study and how to fill out questionnaires and then consent was obtained. When filling out the questionnaires the nurse was present to help out and make any observations concerning senior verifying the information received. At each stage of the study a senior had the right to refuse further participation. Implemented procedure received a positive opinion and was in line with the Declaration of Helsinki.

The study group consisted of 101 people in the geriatric age, including 56.4% of seniors (25.7% women, 30.7% men) were between 65-70 years of age and the remaining 43.6% of the respondents (33.7% women, 9.9% men) aged 71-75 years of age. Seniors most often declared secondary education (48.5%), primary / vocational (41.6%), the remaining 19.8% had higher education. More than half of respondents (53.5%) lived in rural areas and for 46.5% of seniors their place of residence was the city. Most of the elderly people lived together with the family (73.3%), including 44.5% of women and 28.7% men.

The results were statistically analyzed. For unrelated quality characteristics to detect the existence of differences between the groups homogeneity Chi2 test was used. The level of significance $p < 0.05$ indicating the existence of statistically significant differences or relationships.

Results

Symptoms of disease reported by the elderly

Examined older people were invited to provide their symptoms of disease. Experienced symptoms of disease were varied in the study group. Most often there were enumerated: back pain, rapid fatigue, malaise, increased blood pressure. It should be emphasized that both the common as well as the other health issues were much more severe among women (38.6%, 36.6%, 26.7%, 19.8%) than in men (33.7 %, 28.7%, 10.9%, 16.8%) (Figure 1).

Functional and instrumental efficacy among respondents (the results of ADL and IADL scales)

The study of functional capacity in the basic activities of daily living (ADL) and the test of the instrumental efficiency (IADL), evaluate the ability of the functioning concerning the elderly in the surrounding environment showed that the vast majority of respondents (46.5%; n = 47) were moderately or partially efficient in this area, 34.7% (n = 35) are fit subjects or self-reliant, while 18.8% (n = 19) of respondents were significantly inefficient in terms of a dependency in ADL and IADL. Although, the statistical analysis did not confirm a significant impact of the analyzed variables on the seniors' efficiency in this group ($p>0.05$), the limited independence was more common in women and younger people. Significant relationship only applied to the relationship between the efficiency in terms of

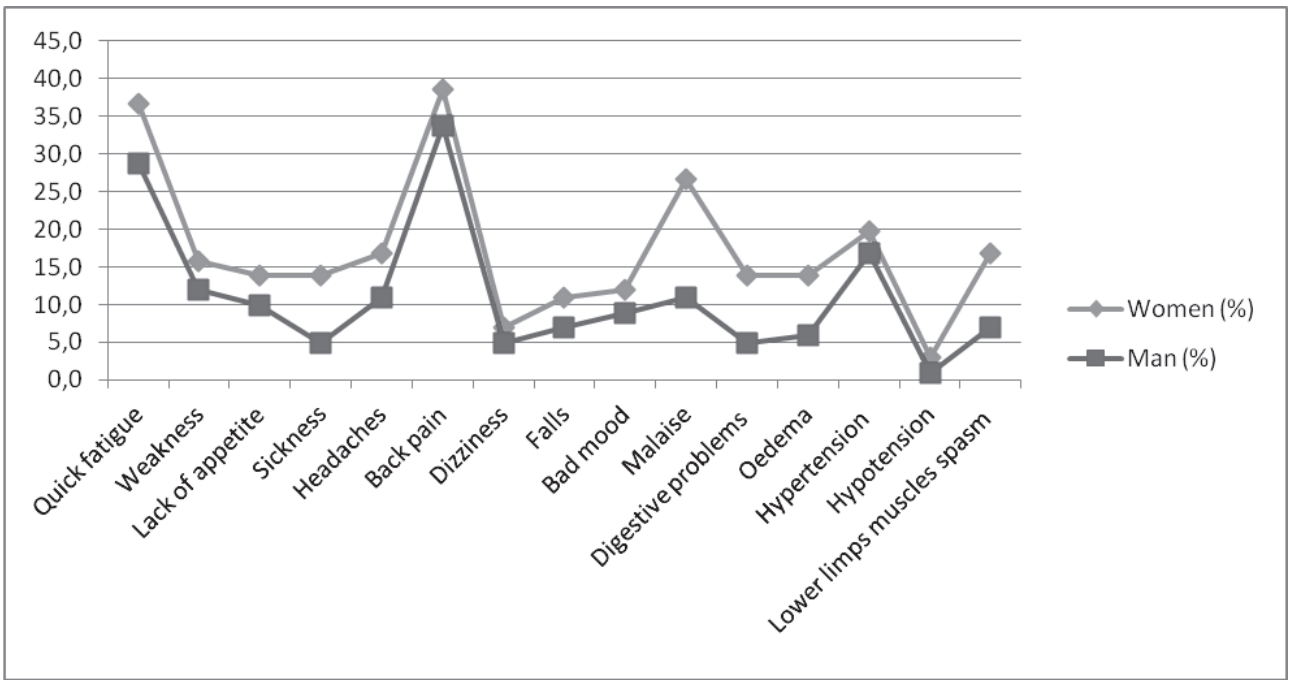

Figure 1. The symptoms occurring in patients

IADL, and the place of residence ($p < 0.05$). Partially independent people and dependent constituted a significantly higher number in the city (respectively 25.7%, 11.9%) than in rural areas (20.8%; 6.9%). Detailed data is shown in Table I.

Mobility and balance (the results of the evaluation using scale NE ADL Index and Tinetti)

Most of the surveyed elderly were independent according to NADAL index. Approximately 10-14% are incapacitated individuals, who require the assistance of another person in all analyzed areas in NEADL index. As it is evident from the calculations, there was no relationship between the variables analyzed and individual NEADL index areas ($p>0.05$).

The risk of falls, determined by a Tinetti scale, was low at 54.5% (n = 55) of respondents 28.7% (n = 29) of seniors were prone to falls, and in 16.8% (n = 17) - the risk of falling was high. Statistical analysis did not confirm a significant impact of either age or place of residence with an increase in the risk of falls among patients ($p>0.05$). Gender was a factor differentiating exposure to falls among seniors ($p < 0.05$), both prone to falls and their high risk more often involved men (15.8%; 8.9%) than women (12.9%; 7,9%). Detailed data is shown in Table II.

Mental capacity and the occurrence of depression (the results of the evaluation on scales AMTS and GDS)

The majority of respondents scored points describing good status in the field of mental ability in AMTS test - 65.4% (n = 66). 25.7% (n = 26) of respondents were diagnosed with moderate impairment, and 8.9% (n = 9) patients showed severe impairment of mental ability. With age, cognitive disorders occurred more commonly in respondents. Moderate impairment more often involved people aged 71-75 years (14.8%) than 65-70 (10.9%) as well as the serious impairment (respectively: 71-75 years of age - 6.9%; 65-70 years of age - 2%).

In the assessment of depression, the majority of respondents, 81.1% (n = 82) did not exhibit any symptoms, 13.9% (n = 14) had moderate depression, and 5% (n = 5) - a severe depression. Statistical analysis has not confirmed a significant influence of age, gender, place of residence on the incidence of depressive disorders ($p>0.05$). Detailed data is shown in Table III.

Discussion

Problems that occur in the elderly are associated inevitably with aging and its consequences. With age, the capacity of the organism deteriorates and increases incidence of various diseases because elderly people require special, professional and continuous medical care, including nursing [11].

Table I. Functional capacity (ADL) and instrumental capacity (IADL) activities of daily living among respondents

Variable			The efficiency of functional and instrumental									
			ADL			Total	*p*	IADL			Total	*p*
			Efficient	Partially operational	Significantly inefficient			Independent	Partially independent	Dependent		
Age	65-70	N	18	28	11	57	> 0.05	20	26	11	57	> 0.05
		%	17.8	27.7	10.9	56.4		19.8	25.7	10.9	56.4	
	71-75	N	17	19	8	44		15	21	8	44	
		%	16.8	18.8	7.9	43.6		14.8	20.8	7.9	43.6	
Total		N	35	47	19	101		35	47	19	101	
		%	34.7	46.5	18.8	100		34.7	46.5	18.8	100	
Sex	Women	N	22	29	9	60	> 0.05	20	32	8	60	> 0.05
		%	21.8	28.7	8.9	59.4		19.8	31.7	7.9	59.4	
	Man	N	13	18	10	41		15	15	11	41	
		%	12.9	17.8	9.9	40.6		14.8	14.8	10.9	40.6	
Total		N	35	47	19	101		35	47	19	101	
		%	34.7	46.5	18.8	100		34.7	46.5	18.8	100	
Place of residence	City	N	17	21	11	47	> 0.05	9	26	12	47	< 0.05*
		%	16.8	20.8	10.9	46.5		8.9	25.7	11.9	46.5	
	Country	N	18	28	8	54		26	21	7	54	
		%	17.8	27.7	7.9	53.5		25.7	20.8	6.9	53.5	
Total		N	35	47	19	101		35	47	19	101	
		%	34.7	46.5	18.8	100		34.7	46.5	18.8	100	

Table II. Assessment of the mobility (NE ADL Index) and balance (Tinetti) among respondents

Variable				Age				Total		Sex				Total		Place of residence				Total	
				65-70		71-75				Women		Man				City		Country			
				N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Mobility and balance assessment	NE ADL Index	Mobility	0	3	3.0	6	5.9	9	8.9	4	4.0	5	5.0	9	8.9	6	5.9	3	3.0	9	8.9
			1	5	4.9	6	5.9	11	10.9	6	5.9	5	5.0	11	10.9	6	5.9	5	4.9	11	10.9
			2	12	11.9	10	9.9	22	21.8	12	11.9	10	9.9	22	21.8	10	9.9	12	11.9	22	21.8
			3	37	36.6	22	21.8	59	58.4	38	37.6	21	20.8	59	58.4	25	24.7	34	33.7	59	58.4
		Total		57	56.4	44	43.6	101	100	60	59.4	41	40.6	101	100	47	46.5	54	53.5	101	100
		p		> 0.05						> 0.05						> 0.05					
		Activities in kitchen	0	3	3.0	5	5.0	8	7.9	3	3.0	5	5.0	8	7.9	5	5.0	3	3.0	8	7.9
			1	4	4.0	6	5.9	10	9.9	5	5.0	5	5.0	10	9.9	6	5.9	4	4.0	10	9.9
			2	10	9.9	10	9.9	20	19.9	9	8.9	11	10.9	20	19.9	8	7.9	12	11.9	20	19.9
			3	40	39.6	23	22.8	63	62.3	43	42.6	20	19.8	63	62.3	28	27.7	35	34.6	63	62.3
		Total		57	56.4	44	43.6	101	100	60	59.4	41	40.6	101	100	47	46.5	54	53.5	101	100
		p		> 0.05						> 0.05						> 0.05					
		Running a household	0	5	4.9	7	6.9	12	11.9	7	6.9	5	5.0	12	11.9	4	4.0	8	7.9	12	11.9
			1	9	8.9	11	10.9	20	19.8	11	10.9	9	8.9	20	19.8	9	8.9	11	10.9	20	19.8
			2	10	9.9	9	8.9	19	18.8	9	8.9	10	9.9	19	18.8	10	9.9	9	8.9	19	18.8
			3	33	32.7	17	16.8	50	49.5	33	32.7	17	16.8	50	49.5	24	23.8	26	25.7	50	49.5
		Total		57	56.4	44	43.6	101	100	60	59.4	41	40.6	101	100	47	46.5	54	53.5	101	100
		p		> 0.05						> 0.05						> 0.05					
		Leisure time activities	0	4	4.0	6	5.9	10	9.9	4	4.0	5	5.9	10	9.9	4	4.0	5	5.9	10	9.9
			1	5	5.9	9	8.9	15	14.8	6	5.9	9	8.9	15	14.8	6	5.9	9	8.9	15	14.8
			2	10	9.9	12	11.9	22	21.8	14	13.9	8	7.9	22	21.8	11	10.9	11	10.9	22	21.8
			3	37	36.6	17	16.8	54	53.5	36	35.6	18	17.8	34	53.5	26	27.7	28	27.7	54	53.5
		Total		57	56.4	44	43.6	101	100	60	59.4	41	40.6	101	100	47	46.5	54	53.5	101	100
		p		> 0.05						> 0.05						> 0.05					
	TINETTI	Low/no risk		35	34.6	20	19.8	55	54.5	39	38.6	16	15.8	55	54.5	27	26.7	28	27.7	55	54.5
		The risk of falling		15	14.9	14	13.9	29	28.7	13	12.9	16	15.8	29	28.7	11	10.9	18	17.8	29	28.7
		High risk		7	6.9	10	9.9	17	16.8	8	7.9	9	8.9	17	16.8	9	8.9	8	7.9	17	16.8
		Total		57	56.4	44	43.6	101	100	60	59.4	41	40.6	101	100	47	46.5	54	53.5	101	100
		p		> 0.05						< 0.05*						> 0.05					

Undertaking of the activities: 0 = not at all; 1 = with a help of others; 2 = on his/her own but with difficulties; 3 = on my own with easiness

Table III. Assessment of mental capacity (AMTS) and signs of depression (GDS) among respondents

Variable			Mental capacity and the occurrence of depression									
			AMTS			Total	*p*	GDS			Total	*p*
			No impairment	Moderate impairment	Severe impairment			No depression	Moderate depression	Severe depression		
Age	65-70	N	44	11	2	57	< 0.05*	50	5	2	57	> 0.05
		%	43.6	10.9	2.0	56.4		49.5	5.0	2.0	56.4	
	71-75	N	22	15	7	44		32	9	3	44	
		%	21.8	14.8	6.9	43.6		31.7	8.9	3.0	43.6	
Total		N	66	26	9	101		82	14	5	101	
		%	65.4	25.7	8.9	100		81.1	13.9	5.0	100	
Sex	Women	N	41	16	3	60	> 0.05	48	9	3	60	> 0.05
		%	40.6	15.8	3.0	65.4		47.5	8.9	3.0	59.4	
	Man	N	25	10	6	41		35	5	2	41	
		%	24.7	9.9	5.9	40.6		34.6	4.9	2.0	40.6	
Total		N	66	26	9	101		82	14	5	101	
		%	65.4	25.7	8.9	100		81.1	13.9	5.0	100	
Place of residence	City	N	28	14	5	47	> 0.05	34	9	4	47	> 0.05
		%	27.7	13.9	5.0	46.5		33.7	8.9	4.0	46.5	
	Country	N	38	12	4	54		48	5	1	54	
		%	37.6	11.9	4.0	53.5		47.5	4.9	1.0	53.5	
Total		N	66	26	9	101		82	15	5	101	
		%	65.4	25.7	8.9	100		81.1	13.9	5.0	100	

Health issues occurred among all tested seniors, in greater or lesser severity of disease symptoms, which affect them when the functional capacity of patients is taken into account.

The functional efficiency is the ability to be independent from others in terms of everyday activities [12]. Performed tests showed good functional abilities in basic activities of daily living (ADL) and in terms of instrumental efficiency (IADL), however, limited self-reliance among women and younger people was noted. It has been observed, however, that in terms of the instrumental efficiency partially independent or dependent elderly, the greater percentage lives in the city ($p < 0.05$). Bujnowska-Fedak et al. [13] obtained similar results in a study conducted among 289 people aged over 60 years in the field of functional efficiency. In the cited study concerning basic activities of daily living (ADL), the vast majority of respondents were efficient, similarly to our study, no differences were observed between age and gender. While the test results evaluating instrumental efficiency (IADL) indicated a slight restrictions of efficiency, particularly in the subset of respondents aged 75 years and older. However, in the study by Borowiak et al. [14] conducted among 1,632 people over the age of 65, residents of the urban environment showed a higher level of functionality and instrumental efficacy than seniors in rural areas.

Epidemiological data indicate that among people living in their own homes, the fall is experienced 35% after the completion of 65 years of age at least once a year. In the group over 80 years of age this problem is already 40%, after 90 years of age up to 50%. It is believed, however, that falls occur more often among residents of nursing homes and social care and treatment, etc. 20% of falls cases result in a serious injury [12]. In our research, the risk of falls determined on a Tinetti scale was low in more than 54% of respondents, nearly 29% of seniors had a tendency to falls, while in almost 16% of the respondents fall risk was high.

The initial step of identifying people at risk of falls should be maintained by environmental nurses who have the greatest contact with older people in the place of residence and the opportunity to protect them against serious complications of possible falls [15].

Our results were focused exclusively on the problems of health and nursing in the group of seniors under the care of a community nurse in Podkarpackie region, and the results of research by Cieslak [16] conducted in a group of 253 nurses working in the open health care system in the province of Warsaw show that almost half (47%) of recipients of their services consisted of older people who experience health problems and were in need of treatments. In-depth research on the analysis of the tasks concerning environmental nurses related to the needs of older people; on the basis of the results of focus groups conducted by Zaczyk et al. [17] showing that the expectations of older people of different public institutions were mainly addressed to community nurses and concern except for performing instrumental actions, providing informational support and emotional one to elderly and the family.

Conclusion

In the study group of seniors remaining in the living environment under the care of an environmental nurse, most important health problems include:

- numerous and varied symptoms of disease reported by the elderly
- moderate functional disability in terms of activities of daily living and instrumental performance in almost half of the respondents
- about 29% prone to falls and approximately 17% at high risk of falls
- moderate impairment of mental function in more than 25%, and severe impairment of mental ability at almost 9%, which increased with age of the respondents.

It was also found that family environment is conducive to maintaining a residence seniors mental health without significant depressive symptoms.

Conflict of interest
None

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