

NURSES' EVALUATION OF THE FUNCTIONAL STATUS OF RESIDENTS OF SOCIAL WELFARE HOME IN GNIEZNO WITH THE USE OF THE NOSGER

PIELĘGNIARSKA OCENA STANU FUNKCJONALNEGO OSÓB MIESZKAJĄCYCH W DOMU POMOCY SPOŁECZNEJ W GNIEŹNIE ZA POMOCĄ SKALI NOSGER

Agnieszka Ulatowska^{1, a}, Katarzyna Plagens-Rotman^{2, b}, Elżbieta Włodarczyk^{3, c}, Grażyna Bączyk^{1, d}

¹ Department of Nursing Practice, Poznan University of Medical Sciences, Poznan, Poland

² Institute of Health Sciences, Hipolit Cegielski State College of Higher Education in Gniezno, Poland

³ Department of Geriatrics, Collegium Medicum in Bydgoszcz, Nicolaus Copernicus University in Toruń, Poland

^a <https://orcid.org/0000-0003-1698-6081>

^b <https://orcid.org/0000-0001-7646-7430>

^c <https://orcid.org/6125-2412-5274-060X>

^d <https://orcid.org/0000-0001-8919-5729>

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ABSTRACT

Introduction. The comprehensive assessment in geriatrics is a multidimensional and interdisciplinary diagnostic procedure defining medical, physical and psychological problems as well as the functional potential of elderly people enabling preparation of a comprehensive nursing care plan.

Aim. The evaluation of functional status of the elderly residents of welfare home in Gniezno with the use of the NOSGER.

Material and methods. The survey was conducted between June and November 2015 in the social welfare home in Gniezno. The number of residents during this period was 68 and consisted of 19 men and 49 women at the age between 59 and 96. Five of the residents refused to take part in the study without justification. The other 63 subjects consented to be enrolled and were examined with the MMSE scale (Mini Mental State Examination), which allows to assess the cognitive functioning. The tool used to evaluate their functional state was the NOSGER (Nurses Observation Scale for Geriatric Patients).

Results. Women obtained higher mean values in comparison with men. In the area of ADL (activity of daily living) $p = 0.032$, IADL (instrumental activities of daily living) $p = 0.018$, S (social behavior) $p = 0.038$. The highest mean values in the group of disabled subjects were at the field of IADL (instrumental activities of daily living), S (social behaviors), M (memory) respectively: 13.33, 11.83, 11.37.

STRESZCZENIE

Wstęp. Całościowa ocena w geriatrici stanowi wielowymiarowe i interdyscyplinarne postępowanie diagnostyczne określające problemy medyczne, fizyczne, psychiczne oraz potencjał czynnościowy osób w podeszłym wieku, umożliwiające stworzenie kompleksowego planu opieki pielęgniarskiej.

Cel. Ocena stanu funkcjonalnego osób starszych zamieszkających w Domu Pomocy Społecznej w Gnieźnie za pomocą skali NOSGER.

Materiał i metody. Badania przeprowadzono w Domu Pomocy Społecznej im. Małżonków Terakowskich w Gnieźnie w czasie od czerwca do listopada 2015 roku. W domu zamieszkiwało wówczas 68 pensjonariuszy w wieku od 59 do 96 lat, 19 mężczyzn i 49 kobiet. Spośród mieszkańców domu 5 odmówiło uczestnictwa w badaniu, nie podając żadnego powodu.

Pozostałe 63 osoby wyraziły zgodę i przebadano je za pomocą skali MMSE (*Mini Mental State Examination*), która pozwala ocenić funkcjonowanie procesów poznawczych. Narzędziem do oceny stanu funkcjonalnego była skala NOSGER (*Nurses Observation Scale for Geriatric Patients*). Zebrany materiał poddano analizie statystycznej za pomocą pakietu statystycznego Statistica 12.0. W obliczeniach wykorzystano test Manna-Whitneya oraz Kruskala-Wallis. Za poziom istotności przyjęto $p \leq 0,05$ wskazujący na istnienie istotnych statystycznie różnic bądź zależności.

Wyniki. Kobiety uzyskały wyższe wartości średnie w porównaniu z mężczyznami. W obszarze ACŻ (aktywność codziennego życia) $p = 0,032$, IACŻ (instrumentalna aktywność codziennego życia) $p = 0,018$, S (zachowania socjalne) $p = 0,038$. Analizując przyczyny pobytu w DPS i wyniki uzyskane w skali NOSGER, należy zauważyć, iż najwyższe wartości średnie w grupie osób niepełnosprawnych występowały w obszarze IACŻ (instrumentalna aktywność codziennego życia), S (zachowania socjalne), P (pamięć) – odpowiednio: 13,33, 11,83, 11,37.

Conclusions. Visible disorders in the functional state of the residents contribute to increase in nursing care related to assistance with functioning in everyday life.

KEYWORDS: functional status assessment, NOSGER, geriatric person.

Wnioski. Widoczne zaburzenia w stanie funkcjonalnym mieszkańców DPS przyczyniają się do zwiększenia opieki pielęgniarstwa związanej z pomocą w funkcjonowaniu w życiu codziennym.

SŁOWA KLUCZOWE: ocena stanu funkcjonalnego, skala NOSGER, osoba geriatryczna.

Introduction

Demographic reports indicate that in the future, around 2050, the number of people over 60 will increase. Until that time, every fifth man in the world will reach the age of 60, and 100 years of age will be reached by every third person. Within next 50 years the number of subjects in the geriatric age will increase fivefold. The life expectancy will increase as well up to 77 years of age [1, 2]. It should be borne in mind that during the process of ageing not only the age is changing, but above it all, the health, nursing and caring problems begin to play the main role. The main objectives of geriatric care are the activities aimed to maintain, as long as possible, autonomy and independence in all spheres of human's life. In order to achieve this goal it is essential to detect the factors affecting decline in self-reliance to cope with everyday life. All activities taken towards the elderly people should in the first place concern their functional status. The comprehensive geriatric assessment is a systematized diagnostic process, defining medical, psychological, physical and social problems. The consequence of the reconnaissance proceedings is to plan the right treatment, nursing care and rehabilitation [3]. Focusing typically on the nursing assessment of the elderly one can use the NOSGER (Nurses Observation Scale for Geriatric Patients).

Material and methods

The survey was conducted between June and November 2015 in the social welfare home in Gniezno, Poland. The number of residents during this period was 68 and consisted of 19 men and 49 women at the age between 59 and 96. Five of the residents refused to take part in the study without justification. The other 63 subjects consented to be enrolled and were examined with the MMSE scale (Mini Mental State Examination), which allows to assess the cognitive functioning. The use of the scale allowed to select the group of further participants in the proper investigation, as it demanded logical conversation with the participants (**Table 1**). The group of 49 subjects was selected consisting of 16 men and 33 women who obtained more than 19 scores in the MMSE scale (which indicates a good state of cognitive processes and a lack of dementia in the extent that prevents communication) was selected. All of the mentioned

above respondents consented to participate in the second stage of the study. The tool used to evaluate their functional state was the NOSGER (Nurses Observation Scale for Geriatric Patients). It enables professional and unprofessional carers to assess the functioning of the elderly in the fast and easy way. The scale was invented in Switzerland in 1988 by professor Renee Springer. Afterwards, it was translated to many other languages and validated. The Polish version is also available. The scale consists of 30 questions which concern 6 areas: instrumental activities of daily living [IADL], activities of daily living [ADL], moods and emotions [M&E], social behavior [SB], destructive, disruptive behavior, anti-social [DB] [4]. All sentences are scored 1 (always) to 5 (never). The patient is able to obtain a minimum of 30 points and a maximum of 150 points. In each range of the scale the respondent may obtain from 5 to 25 points. The higher score the worse the states of the examined patient [5]. Summing up all six levels, the elderly person living alone is considered healthy when obtained less than 60 points. However, the elderly staying in a care institution are considered healthy when they reach no more than 75 points. It is recommended that the assessment with the NOSGER is conducted by subjects who have regular contact with the ward, which will prevent the incorrect answers and thus the incorrect research results [6].

The relations between the following variables: age, sex, education, marital status, duration of stay at the welfare home, reason for stay, presence and number of co-morbidities, applied therapies were investigated.

The collected material was subjected to statistical analysis using the statistical package Statistica 12.0. The Mann-Whitney test and Kruskal-Wallis test were used in the calculations. The significance level was $p \leq 0.05$ indicating the existence of statistically significant differences or dependencies.

The study was approved with the written consent of professor Rene Spiegel, the author of the NOSGER.

The study was performed under the permission from the local ethics group in accordance with the Declaration of Helsinki of 1975 for Human Research and the study protocol was approved by the Bioethics Committee of Poznan University of Medical Sciences in Poznan, Poland. The subjects participating in the study

gave the informed written consent to the participation in the study and its procedure. The study was approved by the Ethical Review Committee at the Poznan University of Medical Sciences No 505/16.

Results

The evaluation of the functional status of the residents of the social welfare home in Gniezno was performed on the basis of the comprehensive analysis of the NOSGER and its individual, component areas. The results were presented as mean values (standard deviation). The group of respondents examined with the NOSGER consisted of 49 subjects. The demographical analysis included also the group of 14, subjects who after the MMSE scale performance were eventually not qualified for the further stage of the survey. This group included 9 women and 5 men in the age between 78 and 92, where 13 subjects were widowers and widows, and 1 unmarried lady. Medical documentation and interviews

with medical staff revealed that 10 subjects had primary education, 3 people had vocational education, while 1 resident did not have any documentation proving the completion of school due to mental disorders. Their stay at the welfare home ranged from 3 to 11 years, mainly due to physical, psychical and social disabilities. The respondents were burdened with minimum two co-morbidities in circulatory, respiratory, urinary and digestive systems, and in the field of cognitive processes (**Table 1**).

In order to analyze the relation between functioning of the respondents in particular areas of the NOSGER and their age, the respondents were divided into two groups: 1st group of respondents aged 59–75 and the second group: 76–95. The analysis showed a statistically significant difference with respect to some areas of the NOSGER and gender. Women obtained higher mean values in comparison with men. In the area of ADL (activity of daily living $p = 0.032$, IADL (instrumental activities of daily living) $p = 0.018$, S (social behavior) $p = 0.038$. The other figures are presented in **table 2**.

Table 1. Characteristics of the social welfare home population group using the MMSE scale

VARIABLE		UNPARTAEDED PERSONS		QUALIFIED PERSONS	
		N	%	N	%
AGE (years of age)	59–64	0	0	2	4
	65–75	0	0	19	39
	76–85	7	50	22	45
	86–95	7	50	6	12
SEX	FEMALE	9	64	16	33
	MALE	5	36	33	67
MARITAL STATUS	UNMARRIED	1	7	14	29
	WIDOW/WIDOWER	13	93	30	62
	MARRIED	0	0	4	9
REASON FOR STAY in the welfare home	DISABILITY	14	100	24	48
	LONELINESS/LACK OF FAMILY	0	0	25	52
NUMBER OF CO-MORBIDITIES	3	9	64	0	0
	2	5	36	12	24
	1	0	0	32	66
	0	0	0	5	10
	4	2	14	3	6
NUMBER OF APPLIED THERAPIES	3	5	36	18	37
	2	7	50	10	21
	1	0	0	17	35
	0	0	0	1	1

Source: author's own analysis

Table 2. Sociodemographic data and NOSGER

NOSGER SCALE (AREAS)	SOCIODEMOGRAPHIC DATA									
	AGE (years of age)			SEX			MARITAL STATUS			
	59–75	76–95	p	FEMALE	MALE	p	WIDOW	UNMARRIED	UNMARRIED	p
ADL – activities of daily living; M (SD)	8.0 (4.02)	8.5 (4.70)	0.915	9.1 (4.59)	6.6 (3.47)	0.032	8.2 (4.75)	8.2 (4.75)	10.5 (2.16)	0.281
IADL – instrumental activities of daily living; M (SD)	10.0 (5.54)	11.9 (6.83)	0.391	12.5 (5.96)	8.3 (6.25)	0.018	11.7 (6.76)	11.7 (6.76)	11.7 (5.90)	0.582
M&E – moods and emotions M (SD)	5.6 (1.65)	5.9 (1.66)	0.173	5.8 (1.65)	5.6 (1.70)	0.296	6.1 (1.85)	6.1 (1.85)	6.2 (2.50)	0.052
DB – destructive, disruptive, anti-social; M (SD)	5.2 (0.71)	5.8 (1.39)	0.102	5.7 (1.32)	5.4 (0.81)	0.630	6.0 (1.35)	6.0 (1.35)	5.0 (0.81)	0.002
S – social behaviors; M (SD)	9.2 (3.72)	10.7 (4.73)	0.298	10.6 (3.55)	8.8 (5.60)	0.038	11.7 (6.76)	10.2 (4.63)	12.5 (4.20)	0.186
M – memory; M (SD)	9.8 (1.52)	11.6 (4.57)	0.505	11.0 (3.75)	10.6 (3.61)	0.308	11.5 (4.43)	11.5 (4.43)	11.5 (2.38)	0.121
sum of NOSGER – Nurses Observation Scale for Geriatric Patients: M (SD)	48.2 (13.15)	54.5 (19.51)	0.915	54.9 (15.23)	45.3 (19.64)	0.006	54.0 (19.35)	54.0 (19.35)	57.0 (9.96)	0.170

M – mean, SD – standard deviation, p – statistical value, Mann-Whitney test

Source: author's own analysis

Analysis covered also education of the respondents. The highest mean values were obtained by the subjects with vocational education (mean value: 44.75). For the respondents with primary education the mean values were at 54.10. In the area of memory for the subjects with primary education the results were at 11.18. Low mean values were obtained by the respondents with vocational education (mean value: 9.91). During the evaluation of daily living activities low mean values were found also among the group of respondents with primary education (mean value: 8.81), while the result among the respondents with vocational education was 6.91. The assessment of the instrumental activities of daily living (IADL) for primary education and vocational education was as follows: 12.08 and 8.33. Mean values in the area of social behaviors were similar and were respectively as follows: primary education – 10.43; vocational education – 9.00.

Moods and emotions were evaluated in the group of respondents with primary education (mean value: 5.91) and then in the group of participants with vocational education (5.50). Also in the area of destructive behaviors the respondents with primary education (mean value 5.81) were assessed first, and followed by the vocational education group (5.08). Carried out statistical analysis did not show any significant relationships between the examined features, $p = 0.106$.

Analysis of reasons for stay at the welfare home and the results obtained using the NOSGER it needs to be underlined that the highest mean values in the group of disabled subjects were at the field of IADL (instrumental activities of daily living), S (social behaviors), M (memory) respectively: 13.33, 11.83, 11.37. Among the group of respondents who stayed at welfare home because of the lack of family and loneliness the highest mean values were obtained in the S field (social behaviors), M (memory) and IADL (instrumental activities of daily living): 10.66, 9.33, 6.33. The other figures are presented in **table 3**.

The data concerning the number of co-morbidities and the type of applied therapy were presented in **tables 4 and 5**.

Table 3. Reason for hospital stay and the NOSGER

NOSGER (AREAS)	DISABILITY	LACK OF FAMILY/ LONELINESS	p
ADL – activities of daily living; M (SD)	10.7 (4.55)	4.6 (0.57)	0.0004
IADL – instrumental activities of daily living; M (SD)	13.3 (6.35)	6.3 (2.30)	0.020
M&E – moods and emotions; M (SD)	6.5 (2.12)	5.3 (0.57)	0.087
DB – destructive, disruptive, anti-social; M (SD)	5.6 (1.12)	5.6 (0.57)	0.087
S – social behaviors; M (SD)	11.8 (4.40)	10.6 (3.51)	0.005
M – memory; M (SD)	11.3 (3.98)	9.3 (0.57)	0.297
sum of the NOSGER – Nurses Observation Scale for Geriatric Patients	59.4 (16.92)	40.3 (5.50)	0.0014

M – mean, SD – standard deviation, p – statistical value, Kruskal-Wallis test
Source: author's own analysis

Table 4. Number of co-morbidities and the NOSGER

NOSGER (AREAS)	LACK OF COMORBIDITIES	1 CO-MORBIDITY	2 CO-MORBIDITIES	p
ADL – activities of daily living; M (SD)	5.2 (0.44)	9.1 (4.79)	7.5 (3.47)	0.218
IADL – instrumental activities of daily living; M (SD)	6.2 (2.68)	12.0 (6.71)	10.8 (5.58)	0.153
M&E – moods and emotions; M (SD)	4.8 (0.44)	5.9 (1.74)	5.9 (1.67)	0.081
DB – destructive, disruptive, anti-social; M (SD)	5.4 (0.54)	5.5 (1.16)	5.9 (1.44)	0.559
S – social behaviors; M (SD)	9.0 (4.06)	10.5 (4.60)	9.4 (3.94)	0.750
M – memory; M (SD)	9.8 (1.78)	11.1 (3.71)	10.5 (4.23)	0.598
sum of the NOSGER – Nurses Observation Scale for Geriatric Patients; M (SD)	40.4 (7.23)	54.2 (18.40)	50.1 (15.47)	0.2496

M – mean, SD – standard deviation, p – statistical value, Mann-Whitney test
Source: author's own analysis

Table 5. Type of applied therapies and the NOSGER

NOSGER (AREAS)	OCCUPATIONAL THERAPY		p	APPLIED THERAPIES		p	PHYSIOTHERAPY		p
	YES	NO		PSYCHOTHERAPY YES	NO		YES	NO	
ADL – activities of daily living; M (SD)	8.9 (4.51)	7.5 (4.14)	0.121	8.3 (4.71)	8.3 (4.39)	0.121	9.8 (4.3)	7.3 (4.21)	0.009
IADL – instrumental activities of daily living; M (SD)	12.4 (6.40)	9.3 (5.86)	0.080	13.6 (7.33)	10.8 (6.04)	0.080	12.3 (5.37)	10.3 (6.88)	0.219
M&E – moods and emotions M (SD)	6.0 (1.85)	5.4 (1.27)	0.107	6.1 (1.94)	5.7 (1.63)	0.107	6.2 (2.04)	5.5 (1.27)	0.107
DB – destructive, disruptive, anti-social; M (SD)	5.9 (1.43)	5.2 (0.41)	0.097	5.8 (1.16)	5.6 (1.19)	0.097	5.9 (1.50)	5.4 (0.86)	0.190
S – social behaviors; M (SD)	9.8 (4.29)	10.4 (5.86)	0.565	11.6 (7.33)	9.8 (6.04)	0.565	10.4 (4.35)	9.8 (4.40)	0.600
M – memory; M (SD)	11.4 (4.11)	10.1 (2.84)	0.177	13.1 (5.15)	10.5 (3.38)	0.177	10.2 (3.12)	11.3 (4.00)	0.729
sum of the NOSGER – Nurses Observation Scale for Geriatric Patients; M (SD)	54.6 (18.03)	47.7 (15.47)	0.171	58.5 (27.10)	50.8 (15.61)	0.171	55.0 (14.59)	49.6 (18.73)	0.150

M – mean, SD – standard deviation, p – statistical value, Mann-Whitney test

Source: author's own analysis

Table 6. Number of therapies applied and the NOSGER

NOSGER (AREAS)	NUMBER OF THERAPIES APPLIED					p
	4 THERAPIES	3 THERAPIES	2 THERAPY	1 THERAPY	NO THERAPY	
ADL – activities of daily living; M (SD)	7.6 (2.51)	9.5 (4.69)	9.4 (5.14)	6.8 (3.62)	5.0 (0.0)	0.186
IADL – instrumental activities of daily living; M (SD)	13.6 (9.01)	11.7 (5.5)	14.0 (7.25)	8.7 (5.71)	5.0 (0.0)	0.191
M&E – moods and emotions; M (SD)	7.0 (2.64)	6.1 (1.93)	5.5 (1.26)	5.5 (1.37)	5.0 (0.0)	0.354
DB – destructive, disruptive, anti-social; M (SD)	6.3 (1.52)	5.8 (1.49)	5.7 (1.33)	5.1 (0.39)	6.0 (1.0)	0.285
S – social behaviors; M (SD)	13.6 (9.01)	9.5 (3.61)	9.9 (3.78)	9.9 (4.57)	14.0 (2.55)	0.715
M – memory; M (SD)	14.0 (5.5)	10.1 (3.04)	12.5 (4.76)	10.2 (3.05)	9.0 (3.21)	0.433
sum of the NOSGER – Nurses Observation Scale for Geriatric Patients; M (SD)	62.3 (30.13)	52.8 (14.5)	57.0 (19.9)	46.2 (15.4)	44.0 (5.23)	0.462

M – mean, SD – standard deviation, p – statistical value, Kruskal-Wallis test

Source: author's own analysis

When analyzing the functional status of welfare home residents in terms of the number of applied therapies, four groups were included: the first one using 4 therapies, the second group concerned residents with three types of therapy, the third group consisted of subjects with two therapies, and the fourth group where only one therapy was used. In all groups, the same areas obtained the highest average values: IADL (instrumental activities of daily living), M (memory), S (social behavior). The analysis did not show statistically significant differences. The data are presented in **table 6**.

Discussion

The comprehensive assessment in geriatrics is a multi-dimensional and interdisciplinary diagnostic procedure

defining medical, physical and psychological problems as well as the functional potential of elderly people enabling preparation of a comprehensive nursing care plan. A holistic approach to a geriatric patient can contribute to improvement in functioning and quality of life of the elderly.

During the aging of the human body, many degenerative changes are observed, including almost all systems and organs, worsening the functioning of the system. A sedentary lifestyle and lack of or insufficient physical activity contribute to the further deterioration of functional capacity, increasing the likelihood of developing cardiovascular disease, musculoskeletal system, osteoporosis, diabetes and metabolic syndrome. In addition, the aging of the central nervous

system is the cause of the limitation of intellectual and physical performance. Sarcopenia, degenerative changes within neurons with a decrease in their number and activity of neurotransmitters, changes in sight, hearing and balance play an important role in the development of functional limitations in the elderly. The strength of the hand grip is reduced from 2 to 2.8% annually, before the age of 60, respectively, it does not exceed 2% during the year, over 70 years of age reaches even above 3.4% annually, while the muscle strength of the lower limb decreases in men by 28%, and in women by 38% between 51 and 84 years of age. In addition, deficiencies in growth hormones and anabolic hormones, a deficiency of 25-hydroxy-cholecalciferol (25 (OH) D), hyper-parathyroidism and limited physical activity, smoking and poor health are responsible for loss of muscle mass [7, 8].

With age, there is a slowdown, deterioration of motor skills, balance disorders and risk of falls during everyday activities or reduced endurance limiting the continuation of physical activity contributing to the loss of independence and dependence on the help of other people. In the Survey of Health, Ageing and Retirement in Europe, it was proved that the limitation of activities such as reaching, bending, kneeling, climbing stairs, lifting heavy objects was the cause of the functional limitation among elderly patients [9]. Similar results were obtained by Balzi et al. [10]. In our research, introduction of therapy results in better functioning in the area of everyday activities.

Studies of Dziechciaż et al. [11] showed that there was no difference between the fitness of elderly women and men. In addition, it was found that approximately 90.2% of older people have fitness in the basic activities of daily living, while 66.7% have significant difficulties in the area of everyday instrumental activities. People with higher education showed better fitness in relation to patients with secondary or basic education.

The results were confirmed with the results of Biercewicz et al. studies [12], where it was found that among the subjects with lower education the limitations concerning everyday activities occur more often when compared to subjects with higher education. In the studies mentioned above, in the performance of complex activities of daily living, the overall assessment and assessment in individual areas of the NOSGER improved with age. However, a higher degree of fitness was diagnosed in the examined women in comparison with the group of men. The obtained results were definitely better in women in each of the studied ranges. Lower fitness was shown among people who were divorced or widowed when compared to those who were married. It was confirmed by the studies of Biercewicz et al. [12]. It needs to be strongly emphasized that efforts should

be made to improve physical fitness, what will result in improving the possibilities of everyday functioning.

With age a loss of nerve cell mass occurs. Moreover, anatomical changes are observed in the form of reduction of the number of neurons or an increase in the number of glial cells in the cerebral cortex and neurochemical changes through the reduction of noradrenaline activity or acetylcholine concentration affecting the memory efficiency in a geriatric patient. Memory disorders are most often manifested by impaired short-term memory [13, 14].

In Fidecki et al. [15, 16], an average of 10.22 and 11.14 points were obtained in the memory area. In our research, the following values were obtained for women and men, respectively: 9.85 points and 11.64 points.

Also in the emotional sphere, changes that include feelings of sadness, despondency or depression changes can be noticed. Probably the loss of a spouse or close friends, with loneliness, lack of social support, loss of social or family roles may be related to it. In the study of Hairi et al. [17] it was shown that among elderly people living alone, depression was a factor of functional limitations and loss of independence, in addition to age, female sex, multiple disabilities, level of physical activity and social factors [18].

In the survey of Grabowski et al. [19], it was found that the residents of the social welfare home had the best performance in the area of destructive behaviors as well as moods and emotions.

The weakening of social bonds in the elderly age is often seen as the withdrawal of the patient by limiting contacts described as unattractive, which usually results in the lack of emotional ties with the family or lack of company. Research conducted by Fidecki et al. [15, 16] showed that the residents of the social welfare home in the field of social behavior functioned at the level of 13.38–14.22 points. This is also confirmed by our research, where 10.66 points were obtained.

Physical fitness plays a significant role in participation in social life. The research by Kościelna et al. [20] proved that the patients at the social welfare homes performed the worse in the area of instrumental activities of daily living (women 18.87 points, 17.97 points). Similarly, the activities of daily living were also low. In the area of instrumental activities of daily living the residents obtained an average of 18.54 points. Similar results were obtained by Fidecki et al. [15, 16] and Wysokiński et al. [18] who indicated that the respondents performed the worst in the area of instrumental activities of daily living. In our research it was observed that the implementation of occupational therapy, psychotherapy and physiotherapy improved patient's performance in the area of instrumental activities of daily

living, which brought respectively 12.44, 13.66 and 12.30 points.

Research by the Main Statistical Office (GUS) showed that the subjective assessment of one's own health among Poles aged 65 and above is constantly improving. In 2012–2015, the percentage of elderly people assessing their health as bad or very bad decreased by 10%, but it is still high. Research carried out by the Main Statistical Office in 2012 lied out that one in eight people in the old age assessed their health as good, 45% neither good nor bad, while the remaining 42% as bad or very bad. However, it should be remembered that with age, not only the number of chronically illnesses increases, but also the number of comorbidities. In 2009, every 9 elderly people declared that they did not suffer health problems and did not suffer from chronic diseases, while nearly 90% confirmed the occurrence of such problems [21]. Functional disorders and the development of disability were caused by diseases of the circulatory system, bones and joints, prolonged back pain, diabetes or depression and neurodegenerative diseases [22, 23]. Progetto Veneto Anziani (PRO.V.A.) Study [23] revealed that joint and cardiovascular diseases were an important factor in the development of disability in the elderly. This is also confirmed by the studies of Wang et al. [24], Rubio Aranda et al. [25] and Dunlop et al. [26]. Patients diagnosed with diabetes and hypertension are also at higher risk of functional limitations. In InChianti research, in particular diabetes was a factor of disability in terms of IADL and ADL, whereas hypertension was a prognostic factor in the occurrence of IADL failure [22]. In this study, elderly patients were diagnosed with one or two chronic diseases. The patients performed the worst in the area of destructive, disruptive, asocial behaviors (5.56 points), the area of moods and emotions (5.91 pp) and in the area of everyday activity (7.58 points). The assessment of an elderly patients must be multi-dimensional in order to assess their functional fitness affecting the quality of life, allowing the development of a detailed nursing process to achieve the goal of maintaining their independence and self-reliance for longer time.

Conclusions

1. The residents of the social welfare home presented the lowest functional ability in terms of instrumental activities of daily living (IADL area).
2. Dysfunction in the area of instrumental activities of daily living (IADL) was dependent on the age of residents. The older the residents, the greater the disability.

3. Marital status and type of applied therapies considerably differentiated fitness of the investigated cohort.
4. Visible disorders in the functional state of the residents contribute to increase in nursing care related to assistance with functioning in everyday life.

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Address for correspondence:

Katarzyna Plagens-Rotman
Ks. Kard. Stefana Wyszyńskiego 38
62-200 Gniezno
phone: 61 4242942
e-mail: plagens.rotman@gmail.com
Institute of Health Sciences, Hipolit Cegielski State College
of Higher Education in Gniezno, Poland