

Marta Muszalik¹, Alicja Marzec², Halina Zielińska-Więczkowska³, Kornelia Kędziora-Kornatowska¹

THE SELECTED ASPECTS OF GERIATRIC PATIENTS' FUNCTIONING EVALUATION

WYBRANE ASPEKTY OCENY FUNKCJONOWANIA PACJENTÓW GERIATRYCZNYCH

Marta Muszalik MD

The Department and Clinic of Geriatrics

Collegium Medicum in Bydgoszcz

Nicolaus Copernicus University of Toruń

Alicja Marzec MD

The Department and Institute of Public Nursing

Collegium Medicum in Bydgoszcz

Nicolaus Copernicus University of Toruń

Halina Zielińska-Więczkowska MD

The Department and Centre for Nurse Pedagogy and Didactics

Collegium Medicum in Bydgoszcz

Nicolaus Copernicus University of Toruń

Kornelia Kędziora-Kornatowska Ph.D., professor

The Department and Clinic of Geriatrics

Collegium Medicum in Bydgoszcz

Nicolaus Copernicus University of Toruń

S u m m a r y

Introduction. As time passes by and the aging proceeds, the state of one's health also changes. Chronic, progressive illnesses appear and limit one's self-reliance. The aim of this study was to evaluate chosen functional fitness factors in geriatric patients and to analyze problems in caring.

Material and methods. The study was conducted in 2010 among 109 patients from the Department and Clinic of Geriatrics. Research tools included: the Care Dependency Scale questionnaire (the CDS); Polish version, Katz Activities of Daily Living Scale (ADL) questionnaire, Lawton Instrumental Activities of Daily Living (IADL) Scale questionnaire.

Results. Everyday and instrumental activities in the surveyed group were estimated at medium to high level. The

majority of the patients surveyed were found to be at medium to low level of care dependency in CDS scale. The correlation between values tested for in ADL scale and the dependency on care tested for with CDS scale has been confirmed.

Conclusions. Among the patients surveyed, the most prominent problems included the difficulties in adjusting the proper body position, mobility limitations and limitations in participating in recreational activities outside without help. The remaining needs were met at a medium level. The general assessment of functional capability was estimated at a medium to high level.

S t r e s z c z e n i e

Wstęp. Wraz z upływem czasu oraz postępem procesu starzenia zmienia się stan zdrowia, pojawiają się schorzenia o charakterze przewlekłym i postępującym, które ograniczają samodzielne funkcjonowanie.

Celem badań było ocena wybranych parametrów sprawności funkcjonalnej pacjentów geriatrycznych oraz analiza problemów pielęgnacyjnych.

Materiał i metody. Badania przeprowadzono w 2010 roku wśród pacjentów Katedry i Kliniki Geriatrii

w liczbie 109 osób. Narzędziami badawczymi były: kwestionariusz (CDS) Care Dependency Scale – wersja polska; kwestionariusz oceny sprawności codziennej (ADL) na podstawie skali Katza, kwestionariusz oceny złożonych czynności życia codziennego (IADL) na podstawie skali Lawtona.

Wyniki. Czynności dnia codziennego oraz czynności instrumentalne w badanej grupie kształtowały się na średnim i wysokim poziomie. Większość badanych pacjentów znajdowała się na średnim i niskim poziomie zależności od

opieki w skali CDS. Potwierdzono istnienie korelacji między wartościami badanymi w skali sprawności funkcjonalnej ADL a zależnością od opieki badaną skalą CDS.

Wnioski. U badanych pacjentów najważniejszymi problemami były trudności w realizacji potrzeb przyjęcia odpowiedniej pozycji ciała, ograniczenia w poruszaniu się oraz ograniczenia w uczestniczeniu w zajęciach rekreacyjnych poza domem bez niczyjej pomocy. Pozostałe potrzeby były zaspokajane na średnim poziomie. Ogólna sprawność funkcjonalna była oceniona na średnim i wysokim poziomie.

Key words: daily activities, elderly, geriatric patients

Słowa kluczowe: funkcjonowanie codzienne, starsi ludzie, pacjenci geriatryczni

INTRODUCTION

Aging is a natural process and a part of human life but the words written by Jonathan Swift ‘Every man desires to live long, but no man wishes to be old’ express the anxieties we associate with our idea of being old [1]. Aging brings about changes: physical, psychological, emotional and interpersonal on a personal level, and epidemiological, legal and economical on a social level [2].

Poland, similarly to many developed countries, has crossed the threshold of old-age demographics (according to WHO, the threshold of a population’s old age is 7% of people older than 65). According to the Central Statistical Office (GUS) there were 5.1mln people aged 65+ in Poland in 2010, which accounts for 14% of Polish society [3]. Poland is located at the 18th position on the list of the World’s countries in terms of ageing. Life expectancy in 2010 was 73.3 years for men and 80.6 years for women. It is predicted that in 2030 life expectancy for Poles will be extended to 77.6 for men and 83.3 for women. It is estimated that in 2030 our society will count 800 thousand people aged 85 and more which is considered ripe old (longevity) [1, 2, 3].

Modern definition of health is understood as the ability to live independently, actively and creatively without illnesses and in full fitness, but also with illnesses if they could not have been avoided. Health can be understood in even narrower terms: as everyday capability [4].

Along those definitions, health is defined by a person’s functioning in everyday life, with regard to their age, sex, family of professional situation and in relation to the standards met/expected in the environment they live in.

Health is equal to a person’s ability in everyday life in terms of self-care, interpersonal communication,

house chores, and leaving the house for groceries, dealing with administrative matters [4].

The self-sufficiency in the most basic functions is fundamental. Those include: moving around the house, dressing up, eating without assistance, using the toilet, hygienic activities, speaking and communicating with the environment. Illnesses may result in permanent or temporary, partial or complete impairment of various spheres of activity.

Time and age influence the health of an elderly person, when chronic diseases appear and develop. They might result in a limitation of one’s autonomous functioning. Seniors most often fall ill with cardiovascular diseases, including hypertension, circulation problems, neurological diseases which change mental sphere, depression, dementia, metabolism-related diseases and endocrinological diseases: diabetes, obesity, thyroid diseases, and others. A major limitation of self-sufficiency occurs with rheumatism-related diseases, osteoporosis and falls. Eating disorders are frequent and include malnutrition in terms of quality and quantity, overweight or obesity [5]. A multi-field research PolSenior, which created the picture of the situation of Polish seniors, showed alarming results [5]. An elderly person, once retired from professional work, will gradually limit their field of functioning. In an advanced age, with worsening state of health and limited ability, their environment might shrink to the size of their house, flat or even room. The elderly fear diseases, infirmity, memory loss, self-sufficiency loss and being dependent on others, bad living conditions and difficulties with supporting themselves, loneliness, losing next of kin, suffering, losing the sense of security and being useless [6].

The research into the scope of retained functional abilities of an elderly person is the aim of COG (Complex Geriatric Care). Identification of individual problems in terms of health, care, psychology and

society is the basis of care planning for elderly patients. The scope of these problems is wide and included physical functioning/mobility, psychological and intellectual functioning, interpersonal and family relations, the state of nutrition and others [7, 8, 9].

The needs of the elderly are examined by physicians, nurses, psychologists, sociologists, physiotherapists and social workers. The research has to be in-depth and complex, as the elderly population is constantly changing in terms of health and functioning, and increasing the demand for care services [10].

The aim of this research was to evaluate the chosen parameters of functional ability of geriatric patients and the analysis of problems with care.

In the light of the conducted practical research, the following questions were addressed:

1. What is the level of addressing the needs and problems of patients, based on the CDS questionnaire?
2. What is the level of patients' mobility, tested with the ADL and IADL questionnaires?
3. Is the level of functional ability, as tested with the ADL questionnaire, related to the Care Dependency Scale research?

MATERIAL AND METHODS

The research was conducted in 2010 among 109 patients from The Department and Clinic of Geriatrics. All patients were aged 60 or more.

Research tools included: Care Dependency Scale questionnaire; Polish version, Katz Activities of Daily Living Scale (ADL) questionnaire, Lawton Instrumental Activities of Daily Living (IADL) Scale questionnaire. The CDS questionnaire, Polish version, consists of 15 items, each of which features 5 criteria on the level of meeting bio-social needs. Katz Activities of Daily Living Scale (ADL) questionnaire indicates the objective evaluation of functional ability. Lawton Instrumental Activities of Daily Living (IADL) Scale questionnaire indicates the evaluation of complex everyday activities.

For data processing, the statistical software called 'STATISTICA 9' was used. Results with statistical significance over $p < 0,001$ were deemed statistically significant.

RESULTS

Statistical analysis of community structure indicates that among 109 patients surveyed, 72.2% were women and 27.8% men. The majority of patients were urban residents (72.2%), with primary education (27.8%), vocational or secondary education (65.7%), or higher education (6.5%). 83.3% described their material conditions as good. Mean age in the surveyed group equaled 74.7. Widows and widowers constituted 45.5%, the rest were married. In the group of 109, most numerous were diseases of the circulatory system and metabolic diseases, mainly diabetes. Patients were admitted to the clinic as scheduled (46.5%) but also as an emergency (53.5%), vast majority were the returning patients (107).

Table I. *Health problems in the studied group according to systems N=109*

Tabela I. *Zdrowotne problem badanej grupy*

Diseases	Number	(%)
Diseases of circulatory system	40	37.0
Diseases of respiratory system	13	12.0
Diseases of digestive system	2	1.9
Diseases of skeletal system	9	8.3
Metabolic diseases (diabetes mellitus)	29	26.9
Other	15	13.9
Mobility		
Ambulatory patient	61	56.5
Wheelchair	5	4.6
Walker	16	14.8
Cane/crutches	20	18.5
Bed rest patient	6	5.6

Table II. *Means and standard deviation of CDS for the study group N=109*

Tabela II. *Średnia i odchylenie standardowe w badaniu CDS*

ITEMS of CDS	Means	± S.D.
1. EATING AND DRINKING	4.4	1.0
2. INCONTINENCE	4.4	1.0
3. BODY POSTURE	3.9	1.0
4. MOBILITY	3.4	1.2
5. DAY/NIGHT PATTERN	4.4	0.8
6. GETTING DRESSED AND UNDRESSED	4.2	1.0
7. BODY TEMPERATURE	4.3	0.8
8. HYGIENE	4.0	0.9
9. AVOIDANCE OF DANGER	4.0	0.8
10. COMMUNICATION	4.6	0.6
11. CONTACT WITH OTHERS	4.3	0.9
12. SENSE OF RULES AND VALUES	4.5	0.9
13. DAILY ACTIVITIES	3.9	1.1
14. RECREATIONAL ACTIVITIES	3.1	1.3
15. LEARNING ABILITY	3.8	0.9
16. TOTAL	3.9	1.0
CDSSUM-score	Number	(%)
High - 15 – 44p	10	9.3
Medium - 45 – 59p	27	25.0
Low - 60 – 75p	71	65.7

Among the patients surveyed, the most prominent problems included the difficulties in adjusting the proper body position, mobility limitations and limitations in participating in recreational activities outside without help. The remaining needs were met at a medium level. The majority of the patients surveyed were found to be at medium to low level of care dependency in CDS scale.

Everyday activities in the surveyed group were estimated at medium to high level. Most difficulties were found with regards to bathing independently.

A link between the research of everyday activities in CDS and needs in CDS has been noted.

Table III. *Results of ADL scores and IADL scores in the study group*

Tabela III. *Wyniki badania ADL i IADL*

ADL score classes	Number	(%)
High: 6.0 - 4.5 p	72	66.7
Medium: 4.5 - 2.5 p	26	24.1
Low: 2.5 or lower	10	9.3
IADL score classes		
High 27 - 22 p	63	58.3
Medium 16 - 21 p	42	38.9
Low 9-15 p	3	2.8

Table IV. *Results of ADL scores (means)*

Tabela IV. *Średnie wyniki ADL*

Items	Means
Bathing	0.6
Getting (un)dressed	0.7
Physiological needs	0.8
Continence	0.8
Eating and drinking	0.9
Mobility	0.8
Total	4.6

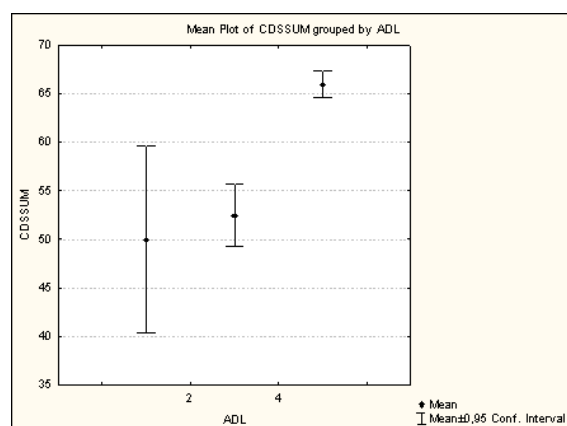


Fig. 1. *Correlation between CDS and ADL-scale*

Ryc. 1. *Zależność między badaniem CDS i ADL*

DISCUSSION

The ability to conduct both basic and complex everyday activities is very important. Conducting everyday activities without limitations is treated as an indicator of healthy old age and is quoted as the aim of many prophylactic and health programs. Old age is characterized by high dynamics of changes occurring also in functional state [11, 12].

In this research, chosen aspects of geriatric patients' functioning were assessed. Author's self-conducted research included 109 patients hospitalized according to the schedule and in an emergency. Among the patients surveyed, diseases of circulatory system, including arterial hypertension, were predominant, along with metabolic diseases, mainly diabetes. According to the research, patients scored high or medium in the CDS scale. One may conclude that this indicates a high level of need fulfillment and care independency. According to Lohrmann, Dijstra and Dassen, low CDS scores indicate patients' full dependency on care. High CDS scores indicate patients' effective independency on care [13].

The level of functional ability in ADL was found to be on the medium to high level. The research showed that values on ADL and IADL scale are linked to CDS scale. The higher the level of a patient's independence, the higher the CDS score. According to Biercewicz et al., deepening malfunctions in instrumental activities of daily living (IADL) brings about lower efficiency in basic activities of daily living (ADL) [14]. The author's self-research showed that any links between the place of residence, sex, age, financial situation and CDS score were statistically insignificant. No correlation between CDS values and existing diseases has been found. The research conducted by Tobiasz-Adamczyk in 2002 confirms that the risk of significant loss of functional activity, both in males and females, rises with age [15].

Our earlier studies conducted on a group of patients treated at a Long Term Care (LTC) as well as boarders of social welfare institution showed significantly higher deficiencies in need fulfillment of LTC patients and correlation with the age of the patients. The largest deficiencies concerning mobility, maintaining hygiene, dressing up, continence, performing everyday activities, maintaining and learning new abilities were present in patients who underwent long term care. The situation was much better when it comes to the boarders of social welfare institution, who got

significantly better overall results in CDS scale similarly to the patients treated at geriatric ward [16]. Similar observations concerning significant influence of age and place of residence on dependence on care were published by Lohrmann. These studies show that in German welfare institutions and hospitals the dependence on nursery care was increasing along with age, but also depended on the type of illness. However, the studied boarders of welfare institutions were fully or significantly dependent on nursery care, but the largest deficiencies were present in maintaining personal hygiene, mobility, avoiding dangers and everyday activities [17].

The research conducted by Muszalik and Kędziora-Kornatowska on the quality of living of chronically ill elderly patients indicates that mobility impairment, ailments and lowering of the energy required for taking everyday activities, are significantly more frequent in elderly patients than in younger patients, regardless of health conditions [18].

CONCLUSIONS

1. Among the patients surveyed, the most prominent problems included the difficulties in adjusting the proper body position, mobility limitations and limitations in participating in recreational activities outside without help.
2. The remaining needs were met at a medium level.
3. The general assessment of functional capability was estimated at medium to high level.

REFERENCES

1. cytaty.eu/autor/jonathanswift.html
2. Wojtczak A.: Zdrowie publiczne wyzwaniem dla systemów zdrowia XXI wieku. Wyd. PZWL, Warszawa 2009.
3. Rocznik Demograficzny 2011. Dział I. Stan i struktura ludności: 62-154. Dział II. Ruch naturalny ludności. Zgony: 298-387.
4. Kawczyńska -Butrym Z.: Rodzina – zdrowie - choroba. Koncepcje i praktyka pielęgniarstwa rodzinnego. Wyd. Czelej, Lublin 2001.
5. www.zycie,senior.pl/najwieksze-w-Polsce-badanie-osob-starych-PolSenior,123431.html (dostęp 4.12.2011)
6. www.cbos.pl/SPISKOM/POL/2009/K_157_09.pdf dział. Wizje własnej starości.
7. Marcinek P.: Funkcjonowanie intelektualne w okresie starości. Gerontol Pol 2007, 15 (3): 69-75.
8. Jabłoński E., Kaźmierczak U.: Odżywianie się osób w podeszłym wieku. Gerontol Pol 2005, 13(1): 48-54.
9. Narodowy Program Zdrowia na lata 2007-2015. Cel operacyjny 14. Usprawnianie wczesnej diagnostyki i czynnej opieki nad osobami zagrożonymi chorobami układu krążenia, udarami mózgowymi, nowotworowymi, powikłaniami cukrzycy, chorobami układu oddechowego oraz chorobami reumatycznymi, szczególnie przez działania podstawowej opieki zdrowotnej.
10. Krzemieniecki K.: Całościowa ocena geriatryczna i jej znaczenie kliniczne w onkologii – systematyczny przegląd piśmiennictwa. Gerontol Pol 2009, 17 (1): 1-6.
11. Galus K., Kocemba J.: MSD Podręcznik Geriatrii. Wyd. Urban& Partner, Wrocław 1999.
12. Parnowski T.: Medyczne i psychologiczne problemy wieku podeszłego. Problemy Rodziny 1996, 5: 42-45.
13. Lohrmann Ch., Dijkstra A., Dassen T.: An Assessment Instrument for Elderly Patients in German Hospitals. Geriat Nur 2003, 24:40-43.
14. Biercewicz M., Kędziora-Kornatowska K., Ślusarz R., Faleńczyk K., Cegła B., Szrajda J.: Wykorzystanie badania klinimetrycznego do oceny osób w starszym wieku. Annales Universitatis Mariae Curie-Skłodowska Lublin- Polonia, 2005, Sectio D,60, 16, 31-35.
15. Tobiasz-Adamczyk B., Brzyski P.: Czynniki warunkujące zmiany w stanie funkcjonalnym w wieku starszym na podstawie 12-letniej obserwacji. Factors influencing changes in functional status in elderly based on 12 year observation. Gerontol Pol 2002, 10: 23-29.
16. Muszalik, M., Kędziora-Kornatowska, K., Kornatowski, T.: Care dependency scale as an assessment instrument for elderly patients in long care-term and social welfare-first research in Poland. In: Saracen, A., Holistic care of elderly. High School in Radom, Radom 2009: 31-41.
17. Lohrmann, Ch., Dijkstra, A., Dassen, Th.: Care dependency: testing the German version of the care dependency scale in nursing homes and on geriatric wards. Scand. J. Car. Sci. 2003,17: 51-56.
18. Muszalik M., Kędziora-Kornatowska K.: Quality of life of the chronically ill elderly patients. Gerontol Pol 2007, 14: 185-189.

Address for correspondence:

The Department and Clinic of Geriatrics
Collegium Medicum in Bydgoszcz
Nicolaus Copernicus University of Toruń
M.Skłodowskiej-Curie 9
67-090 Bydgoszcz
tel. (0-52) 585-40-21
fax: (0-52) 585 49 21
muszalik@cm.umk.pl

Received: 10.01.2012

Accepted for publication: 6.03.2012

