

Elements of the comprehensive geriatric assessment of seniors staying in social welfare homes

Elementy całościowej oceny geriatrycznej seniorów w domach pomocy społecznej

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Abstract

Introduction. Comprehensive geriatric assessment is a multi-faceted and interdisciplinary diagnostic process that aims at recognizing medical, physical and mental issues in a patient. The process includes specifying patients' potential for activity as well as a comprehensive plan for taking care of them. **Aim.** The paper aims at geriatric assessment, by means the NOSGER scale, of seniors staying in social welfare homes. **Material and methods.** The investigation was conducted in the cohort of 195 elderly people staying in social welfare homes of Lublin. Nurses' Observation Scale for Geriatric Patients, which facilitates both professional and non-professional carers to make a prompt and easy assessment of their elderly patients' physical, mental and social condition, was employed to administer the study. **Results.** Having made patients' assessment by means of the NOSGER scale, the Authors found the score for the complete study group to average out at 60.41 points. Investigated patients functioned best within the scope of disruptive behaviours (average 8.87 points). Memory and daily living activities averaged out respectively at 9.58 and 9.85 points, while the domain of moods/ emotions scored 10.94 points, and social behaviours averaged out at 10.94. Investigated patients functioned worst in the field of instrumental activities of daily living (11.13 points). **Conclusions.** The greatest deficits in the cohort of elderly people staying in social welfare homes were found within the scope of instrumental activities of daily living. Females were found to be fitter in comparison with males. Patients' age significantly differentiated fitness levels – the older the patients the worse their fitness. On the other hand, it was found that the higher the patients' education, the better their bio-psycho-social fitness. (Gerontol Pol 2016; 24: 26-31)

Key words: NOSGER scale, comprehensive geriatric assessment, social welfare home

Streszczenie

Wstęp. Kompleksowa ocena geriatryczna jest wieloaspektowym i interdyscyplinarnym procesem diagnostycznym, którego celem jest rozpoznanie problemów medycznych, fizycznych oraz psychicznych pacjenta, wraz z określeniem jego potencjału czynnościowego i wprowadzeniem całościowego planu opieki. **Cel.** Celem pracy było dokonanie oceny geriatrycznej seniorów przebywających w domach pomocy społecznej przy pomocy skali NOSGER. **Materiał i metody.** Badania przeprowadzono na grupie 195 osób w podeszłym wieku przebywających w domach pomocy społecznej miasta Lublin. Badania przeprowadzono przy użyciu skali NOSGER (Nurses' Observation Scale for Geriatric Patients). Skala ta umożliwia profesjonalnym jak i nieprofesjonalnym opiekunom seniora szybkie i łatwe dokonanie oceny fizycznego, umysłowego i socjalnego stanu pacjenta. **Wyniki.** Dokonując oceny pacjentów za pomocą skali NOSGER stwierdzono że średni wynik dla badanej grupy wyniósł 60,41 pkt. Badani najlepiej funkcjonowali w obszarze zachowań zakłócających (średnia 8,87 pkt). Na podobnym poziomie uzyskano wyniki w zakresie pamięci i aktywności codziennego życia, średnie odpowiednio: 9,58 pkt oraz 9,85 pkt. Obszar nastrojów/emocji kształtował się na poziomie 10,05, a zachowań socjalnych na poziomie 10,94 pkt. Badani najgorzej funkcjonowali w zakresie instrumentalnej czynności codziennego życia (11,13 pkt). **Wnioski.** W badanej grupie osób starszych przebywających w domach pomocy społecznej największe deficyty stwierdzono w zakresie instrumentalnych czynności codziennego życia. Kobiety wykazywały wyższy stopień sprawności w porównaniu z grupą mężczyzn. Wiek badanych istotnie różnicował ich stopień sprawności. Wraz z wiekiem pogarszała się sprawność badanych osób. Wraz ze wzrostem wykształceniem badanych, lepsza była ich sprawność biopsychospołeczna. (Gerontol Pol 2016; 24: 26-31)

Słowa kluczowe: skala NOSGER, kompleksowa ocena geriatryczna, dom pomocy społecznej

Introduction

Comprehensive geriatric assessment is a multifaceted and interdisciplinary diagnostic process whose aim is to recognise patients' medical, physical and mental problems as well as to specify their potential for activities and to introduce an all-inclusive care plan [1].

Apart from the classical subject and object examination, a comprehensive geriatric assessment always involves an analysis of the functional fitness within the scope of basic and complex activities of daily living. Further elements of the assessments include an appraisal of mental functions (depression and senile dementia), as well as an evaluation of the risk of falls and malnutrition [2]. Occurrence of pain and its intensity should also be assessed. Patient's socio-economic situation ought to be taken into account as well. Employing tools of a comprehensive geriatric assessment considerably improves detectability of disorders that are typical for the old age. It is defining patient's functional state and its restrictions, rather than concentrating on present disorders and conditions that is most important within the scope of a comprehensive assessment. So much so that numerous incurable disorders allow for a positive prognosis in the scope of improving patients' functional fitness. Hence, any activities undertaken within the scope of geriatric assessment consist in discovering reversible problems and solving them [3,4].

Aim

The aim of the paper was to make a geriatric assessment of seniors staying in social welfare homes.

Material and methods

The investigation was administered in the group of 195 elderly people staying in social welfare homes of Lublin. The study was approved by the Bioethical Committee of the Medical University in Lublin. Investigated patients gave their informed consent for participating in the research. Socio-demographic characteristics of investigated patients is presented in Table I.

The study involved using the NOSGER scale (Nurses' Observation Scale for Geriatric Patients), which allows both professional and non-professional carers of the elderly to evaluate physical, mental, and social state of their patients quickly and easily. The scale is comprised of 30 questions and covers six dimensions: memory, instrumental activities of daily living (IADL), activities of daily living (ADL), mood, social behaviour, destructive behaviour, and disturbing behaviour. Values on the scale range from 1 to 5. A minimum score a patient can score is 30 and the maximum score is 150. Within each domain, a patient's score can range from 5 to 25 points. The higher the score one obtains during observation, the worse their condition is [5-10].

Findings were analysed statistically and values of the measurable parameters being analysed were presented by means of the mean value, median, and standard deviation, while cardinality and percentage were used for the non-measurable values. The U Mann-Whitney test was used to compare two independent groups, whereas the Kruskal-Wallis test was employed to compare more than two groups. The relevance level of $p < 0.05$ was adopted to indicate statistically significant differences or correlations. The database and statistical analysis were administered by means of the STATISTICA 9.0 software.

Table I. Socio-demographic characteristics of the research pool

		%	No.
Gender	Female	63.08	123
	Male	36.92	72
Age	65 – 74 years	29.23	57
	75 – 89 years	63.07	123
	Over 90 years	7.70	15
Education	Elementary	50.25	98
	Secondary	31.35	61
	Higher	18.40	36
Marital Status	Single	22.50	44
	Married	8.70	17
	Divorced	19.50	38
	Widow/ Widower	49.30	96

Results

The patients having being evaluated by means of the NOSGER scale, the average score for the group was found to be 60.41 points. Investigated patients functioned best in the domain of disruptive behaviours (average 8.87 points). Similar levels were obtained within the domain of memory and activities of daily living, average values were respectively 9.58 points and 9.85 points. The field of moods/ emotions averaged out at 10.05 points, and social behaviours at 10.94 points. Investigated patients functioned worst in the domain of instrumental activities of daily living (11.13 points). Detailed statistical analysis of respective domains is presented in Table II.

Table II. Statistical values of the NOSGER scale

NOSGER dimension	Mean	Median	SD
Memory	9.58	9.00	3.59
IADL	11.13	9.00	3.60
ADL	9.85	10.00	4.43
Mood	10.04	10.00	4.16
Social behaviour	10.94	9.00	3.99
Disturbing behaviour	8.87	8.00	2.93
NOSGER	60.41	56.00	18.61

Table III. NOSGER vs. Gender

NOSGER dimension	Male			Female			Statistical analysis	
	Mean	Median	SD	Mean	Median	SD	Z	p
Memory	9.93	9.00	3.85	9.37	9.00	3.42	0.76	0.47
ADL	9.85	9.00	3.70	9.85	9.00	3.55	-0.11	0.91
Mood	11.49	10.00	5.00	10.62	10.00	4.04	0.86	0.40
IADL	11.44	10.50	4.30	10.95	10.00	4.10	0.62	0.54
Social behaviour	9.94	9.00	3.39	10.11	9.00	4.31	-0.02	0.99
Disturbing behaviour	9.03	8.00	3.10	8.77	8.00	2.84	0.34	0.73
NOSGER	61.68	55.50	19.92	59.67	57.00	17.83	0.31	0.75

Z - Mann-Whitney U test

Table IV. NOSGER vs. Age

NOSGER dimension	65-74			75-89			90+			Statistical analysis	
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD	H	p
Memory	8.86	9.00	3.05	9.67	9.00	3.72	11.60	11.00	3.70	6.89	0.03
ADL	9.00	8.00	3.02	9.91	9.00	3.69	12.53	12.00	3.64	11.04	0.00
Social behaviour	10.37	10.00	3.64	10.92	10.00	4.55	13.27	10.00	5.57	3.01	0.22
IADL	10.50	10.00	3.20	10.97	10.00	4.20	14.93	12.00	5.30	9.157	0.01
Mood	10.18	9.00	2.46	10.28	9.00	4.58	11.47	11.00	2.75	6.942	0.03
Disturbing behaviour	9.11	9.00	2.62	8.77	8.00	3.14	8.73	8.00	2.37	2.102	0.34
NOSGER	57.00	56.00	14.11	60.51	55.00	19.77	72.53	63.00	19.77	7.225	0.02

H - Kruskal -Wallis test

Females were found to be fitter (59.67) than males (61.68) according to gender-based patient evaluation. Nevertheless, the difference proved not to be statistically significant (Table III).

The next aspect to be analysed was a comparison of seniors' state depending on their age. Patients from the youngest age bracket scored highest (averagely 57.00 points). Those from the 74-89 age group scored slightly worse (60.51 points), and those over 90 functioned worst (72.53 points) (Table IV).

Table V presents assessment results depending on investigated patients' education. The data prove those with higher education to function best (51.50 points) and those with elementary education to function worst (61.67 points). Nevertheless, no statistically significant difference was discovered between features analysed.

Assessment of elderly people depending on their marital status was the final aspect to be analysed. Divorced people featured greatest fitness (58.68 points), and widowed patients scored similarly (59.71). Single patients averaged out at 61.66 points. Married patients proved to function worst, scoring 64.94 points (Table VI).

Table V. NOSGER vs. Education

NOSGER dimension	Elementary			Secondary			Higher			Statistical analysis	
	Mean	Median	SD	Mean	Median	SD.	Mean	Median	SD	H	p
	Memory	9.93	9.00	3.59	9.46	9.00	3.59	8.83	8.00	3.53	3.518
ADL	10.15	9.50	3.48	9.69	9.00	3.62	9.28	9.00	3.87	3.018	0.22
Social behavior	11.29	10.00	4.52	10.62	10.00	4.00	10.53	9.00	4.86	1.520	0.46
IADL	11.28	10.00	4.32	11.13	11.00	3.87	10.75	9.00	4.29	0.905	0.63
Mood	10.15	9.00	3.20	10.25	9.00	5.18	9.42	8.00	3.64	2.361	0.30
Disturbing behavior	8.88	8.00	2.93	8.74	8.00	2.95	9.05	8.00	2.97	0.288	0.86
NOSGER	61.67	56.50	18.50	59.89	57.00	18.52	57.86	51.50	19.26	1.863	0.39

H – Kruskal-Wallis test

Table VI. NOSGER vs. Marital Status.

NOSGER dimension	Single			Married			Divorced			Widow/ Widower			Statistical analysis	
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD	H	p
	Memory	10.09	9.50	3.39	10.11	10.00	3.40	8.71	8.50	2.51	9.59	9.00	4.02	3.938
ADL	9.91	10.00	3.20	10.76	10.00	3.66	8.84	8.00	2.85	10.05	9.00	3.96	3.935	0.26
Social behaviour	11.14	10.50	3.55	10.88	10.00	4.13	11.42	11.00	4.83	10.66	9.00	4.70	2.700	0.44
IADL	11.43	10.50	3.85	11.76	11.00	4.40	11.15	11.00	3.98	10.87	10.00	4.36	1.916	0.59
Mood	10.55	9.00	5.69	11.52	11.00	4.17	9.84	9.00	3.14	9.63	9.00	3.21	3.902	0.27
Disturbing behaviour	8.55	8.00	2.70	9.88	9.00	3.05	8.71	9.00	2.80	8.89	8.00	3.06	2.692	0.44
NOSGER	61.66	57.00	17.16	64.94	59.00	19.34	58.68	57.50	14.90	59.71	54.00	20.44	2.487	0.47

H – Kruskal -Wallis test

Discussion

Growing old is a progressive process of decreasing mental and physical fitness in a human being. The incidence of various somatic and mental diseases increases with age, furthermore, there is a greater risk of dementia-based diseases with their wide range of symptoms that may prove very arduous. Furthermore, there is a change of social roles and a gradual loss of close relatives. All the aforementioned factors contribute to a unique nature of the needs that elderly people develop. Such needs, either satisfied or frustrated, manifestly correlate with the quality of life the elderly perceive, and thus correlate indirectly with the quality of their treatment. It is owing to an assessment of a patient’s needs that a direction and an optimum range of therapeutic and social activities may be established. Care customized for individual demands seems to be most beneficial as it al-

lows to increase patients’ quality of life and is the best solution economically-wise [11].

Authors’ own findings proved investigated patients to enjoy a relatively high degree of fitness, both in the general NOSGER scale fitness assessment, and in the scale’s respective domains. However, another research by Fidecki et al. [12] produced data that proved assessment results to be better. The investigation involved elderly people in their home environment. In this study, assessment results obtained by means of the NOSGER scale averaged out at 54.12 points. Further research by Fidecki et al. [13] produced significantly different assessment results. 202 elderly people who were assessed in long-term care institutions averaged out at 71.04 points on the NOSGER scale, which proves patients to have a decreased fitness level and a large demand for care from other people.

Authors’ own research specified bio-psycho-social assessment of elderly people depending on their gender.

Females proved to enjoy slightly better psycho-motor condition in comparison with males in all domains of the NOSGER scale (except for the moods/emotions domain, where males scored slightly higher). Investigations by Bońkowski and Klich-Rączka [14] and by Wilmańska and Gułaj [15] produced different findings as they clearly showed females to have worse functional state than males.

Literature of the subject and findings by other Authors prove fitness of elderly people to decrease with age, believe a decrease in functional fitness, especially within the scope of movement to be the cause). An analysis of administered investigations proved there was a correlation between age and the level of functional fitness. In this study, best results were obtained in the cohort of 65-74 year-olds. They enjoyed better functional fitness in comparison with other groups. Płażewska-Żywko et al. [16] obtained similar research findings as this age group also scored best in their investigation. Authors' own investigations proved married people to have worst fitness, whereas studies by other authors pointed out widowed people to have worst fitness [17, 18].

Numerous factors negatively influencing human life cumulate in the old age. If such factors are promptly identified, minimized or liquidated, elderly people's life-spans may be lengthened, while their fitness and quality of life are improved [16].

Conclusions

1. Greatest deficits in the investigated cohort of elderly people staying in social welfare homes were found in the domain of instrumental activities of daily living.
2. Females proved to enjoy greater fitness than males.
3. Investigated patients' age significantly differentiated their fitness levels. The older the patients, the worse their fitness.
4. On the other hand, the higher patients' education, the better their bio-psycho-social fitness.

Conflict of interest

None

References

1. Bień B, Wojszel ZB. Kompleksowa ocena geriatryczna. W: Kędzióra-Kornatowska K., Muszaliak M. (red.) Kompendium pielęgnowania pacjentów w starszym wieku. Lublin: Wyd. Czelej; 2007. s. 89-96.
2. Wieczorowska-Tobis K. Ocena pacjenta starszego. *Geriatrya* 2010; 4: 247-51.
3. Wieczorowska-Tobis K, Grodecka-Gazdecka S. Pacjent onkologiczny - geriatryczny punkt widzenia. *Geriatrya*. 2010; 4:203-8.
4. Wieczorowska-Tobis K, Rajska-Neumann A, Styszyński A, Joźwiak A. Kompleksowa ocena geriatryczna jako narzędzie do analizy stanu funkcjonalnego pacjenta starszego. *Gerontol Pol*. 2006; 2: 38-40.
5. Brunner C, Spiegel R. Eine Validierungsstudie mit der NOSGER (Nurses' Observation Scale for Geriatric Patients), einem neuen Beurteilungsinstrument für die Psychogeriatric. *Z Klin Psychol*. 1990; 19 (3): 211-29.
6. Spiegel R, Brunner M, Ermini-Füschilling D. and al. A new behavioral Assessment Scale for Geriatric Out- and In Patients: the NOSGER (Nurses' Observation Scale for Geriatric Patients). *J Am Geriatrics Soc*. 1991; 39 (4): 339-47.
7. Tremmel L, Spiegel R. Clinical experience with the NOSGER (Nurses' Observation Scale for Geriatric Patients): tentative normative data and sensitivity to change. *Int J Geriatr Psychiatry*. 1993; 8: 311-7.
8. Wahle M, Häller S, Spiegel R. Validation of the NOSGER (Nurses' Observation Scale for Geriatric Patients): reliability and validity of a caregiver rating instrument. *Int Psychogeriatr*. 1996; 8 (4): 525-47.
9. Liszewska M. Zdążyć na czas. Senior z demencją a zastosowanie NOSGER (Nurses' Observation Scale for Geriatric Patients). *Wspólne tematy*. 2005; 1: 3-9.
10. Fidecki W, Wysokiński M. Zastosowanie skali NOSGER w praktyce pielęgniarstwa. W: Kachaniuk H. (red.) *Pielęgniarska opieka nad osobami starszymi*. Warszawa: Dr Josef Raabe Spółka Wydawnicza Sp. z o.o.; 2008. s. 13-21.
11. Rymaszewska J, Szmigiel A. Potrzeby osób w starszym wieku – definicje i narzędzia oceny. *Psychogeriatr Pol* 2008; 5(2): 95-104.

12. Fidecki W, Wysokiński M, Wrońska I, Kornelia Kędziora-Kornatowska K., Kachaniuk H, Ślusarz R, Jadwiga Burian B, Sienkiewicz Z. Ocena stanu fizycznego i psychospołecznego osób starszych z wykorzystaniem skali NOSGER. *Piel XXI*. 2013; 4 (45): 17-20.
13. Fidecki W, Wysokiński M, Wrońska I, Robert Ślusarz R. Elementy kompleksowej oceny geriatrycznej w praktyce pielęgniarstwa. *Przegląd Medyczny Uniwersytetu Rzeszowskiego i Narodowego Instytutu Leków*. 2011; 2: 205-11.
14. Bońkowski K, Klich-Rączka A. Ciężka niesprawność czynnościowa osób starszych wyzwaniem dla opieki długoterminowej. *Gerontol. Pol.* 2007; 15, 3: 97-103.
15. Wilmańska J, Gułaj E. Ocena zaburzeń funkcji poznawczych osób starszych- próba porównania poszczególnych metod przesiewowych. *Gerontol. Pol.* 2008; 16, 2: 111-8.
16. Płaszewska-Żywko L, Brzuzan P, Malinowska-Lipień I, Gabryś T. Sprawność funkcjonalna u osób w wieku podeszłym w domach pomocy społecznej. *Probl Hig Epidemiol*. 2008. 89 (1): 62-66.
17. Biercewicz M, Kędziora-Kornatowska K, Ślusarz R, Cegła B, Faleńczyk K. Ocena wydolności czynnościowej osób w wieku podeszłym na tle uwarunkowań zdrowotnych i społecznych. *Piel XXI*. 2005; 1-2: 39-45.
18. Bogusz R, Charzyńska-Gula M, Szkuat M, Kocka K, Szadowska-Szlachetka Z. Sprawność funkcjonalna osób powyżej 70 roku życia na wsi a zapotrzebowanie na opiekę. *Med Og Nauk Zdr.* 2013; 19(4): 517-22.