

# Quality of life, functional efficiency and risk of depression among patients staying in selected long-term care facilities – pilot study

## Jakość życia, sprawność funkcjonalna oraz występowanie ryzyka depresji u pacjentów przebywających w wybranych zakładach opieki długoterminowej – badanie pilotażowe

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### Abstract

**Introduction.** Quality of life assessment should be an important element in the diagnosis of geriatric patients staying in long-term care facilities. **Aim.** Evaluation of the quality of life, functional abilities and risk of depression in patients aged 85 and over in long-term care facilities. **Material and methods.** The study was carried out using a structured interview. The research questionnaire consisted of: scales assessing basic and complex activities of daily life (ADLs), Ferrans and Powers Quality of Life Index (general version) and the Geriatric Depression Scale. The study involved 74 residents aged 85 and older (65 women and 9 men) residing in two treatment-and-care institutions in Warsaw. **Results.** The mean age of the subjects was  $90.51 \pm 4.53$  years, and the mean age at retirement was  $62.31 \pm 9.39$  years. Most the residents had been doing mental work (42 people, i.e. 56.8% of the respondents). According to the Katz scale, the majority of the subjects were severely disabled (40 persons, i.e. 54% of the respondents). According to the Geriatric Scale of Depression, 41 persons (55.4% of the respondents) achieved scores that did not indicate depression. The average score in the Quality of Life Index was 18.61. Persons with normal scores on the Geriatric Depression Scale obtained a higher mean score on the Quality of Life Index compared to those with a suspected moderate or severe depression ( $p < 0.01$ ). **Conclusions.** Persons with a suspected depression have a worse quality of life. The age of residents, education and net disposable income do not affect the quality of life of persons residing in long-term care facilities. (Gerontol Pol 2018; 26; 182-189)

**Keywords:** quality of life, elderly people, long-term care facility

### Streszczenie

**Wstęp.** Ocena jakości życia powinna być istotnym elementem diagnozowania pacjentów geriatrycznych przebywających w zakładach opieki długoterminowej. **Cel.** Ocena jakości życia, sprawności funkcjonalnej i występowania ryzyka depresji u pacjentów w wieku 85 lat i więcej, przebywających w zakładach opieki długoterminowej. **Material i metody.** Metodą badawczą zastosowaną w badaniu był wywiad kwestionariuszowy, opracowany w Zakładzie Zdrowia Publicznego Warszawskiego Uniwersytetu Medycznego, pt. Ocena i funkcjonowanie jakości życia osób długowiecznych. Metodą badawczą zastosowaną w badaniu był wywiad kwestionariuszowy. Narzędziem badawczym była ankieta składająca się z wybranych skal w tym skalę Katza (ADL); skalę Lawtona (IADL); Indeksu Jakości Życia w wersji ogólnej – Ferrans and Power; Geriatryczna Skala Oceny Depresji. Ankieta zakończona była metryczką. W badaniu wzięło udział 74 pensjonariuszy w wieku 85 lat i więcej (65 kobiet i 9 mężczyzn) przebywających w dwóch warszawskich zakładach opiekuńczo-leczniczych. **Wyniki.** Średni wiek badanych wynosił  $90,51 \pm 4,53$  lat, zaś średni wiek zakończenia aktywności zawodowej  $62,31 \pm 9,39$  lat. Większość pensjonariuszy wykonywało w przeszłości pracę umysłową (42 osoby, tj. 56,8% badanych). Pacjenci, zgodnie ze skalą Katza byli w większości osobami znacznie niesprawnymi (40 osób, tj. 54% badanych). Zgodnie z Geriatryczną Skalą Oceny Depresji 41 osób (55,4% badanych) uzyskało wyniki nie wskazujące na występowanie depresji. Średni wynik uzyskany w Indeksie Jakości Życia wyniósł 18,61. Osoby o stanie prawidłowym w Geriatrycznej Skali Oceny Depresji uzyskały wyższą średnią Indeksu Jakości Życia w porównaniu od osób z podejrzeniem umiarkowanej lub głębokiej depresji ( $p < 0,01$ ). **Wnioski.** Osoby, u których występuje podejrzenie depresji cechują się gorszą jakością życia. Wiek pensjonariuszy

szy, ich wykształcenie oraz dyspozycyjny dochód netto nie mają wpływu na jakość życia osób przebywających w zakładach opieki długoterminowej. (*Gerontol Pol* 2018; 26; 182-189)

**Słowa kluczowe:** jakość życia, osoby starsze, zakład opieki długoterminowej

## Introduction

The number of elderly people is increasing systematically in Poland. In 2014, the number of people aged 60 and above was more than 8.5 million, which constituted approx. 22% of the Polish population. In comparison to 1989, the number of people at that age increased by approx. 2.9 million. Also, a significant increase in the percentage of people aged 80 and above in relation to the entire population was observed: in 2014, it was 4% (the value doubled in comparison to 1989) [1]. A forecast prepared by the Central Statistical Office of Poland indicates a further increase in the number of elderly people in the society. It is estimated that by 2050 the number of people aged 65 and above will increase by 5.4 million in comparison to 2014 [2]. The constant process of extending the average life expectancy and a low rate of births result in the aging of the society. Therefore, the need for care and treatment services will increase systematically [3,4].

Long-term care facilities including nursing and therapeutic establishments [NTE] as well as care and nursing homes [CNH] [4] are the two elements of the care systems for geriatric patients. The number of such facilities in Poland has grown significantly in the last 15 years. In 2000, there were 126 NTEs and 49 CNHs. In 2015, the number of NTEs was 353, while the number of CNHs – 148.

To assess the condition of patients staying at such facilities, numerous studies which make up for the CGA (Comprehensive Geriatric Assessment) need to be conducted [5,6]. In the CGA, information is obtained concerning among others: limitations in the patient's functioning, physical and mental disorders or abilities to perform simple and complex daily life activities [6,7]. Scales/questionnaires used within the CGS include: the geriatric depression scale according to Yesavage, the scale assessing basic (Katz scale) and complex (Lawton's scale) daily life activities, MMSE test (*Mini-Mental State Examination*) according to Folstein or the nutrition assessment questionnaire MNA (*Mini Nutritional Assessment*). In order to detect qualitative disturbances of consciousness also the CAM (*Confusion Assessment Method*) scale and the DOS (*Delirium Observation Scale*) scale are useful [6].

Due to the nature of full-time long-term care facilities as well as the characteristics of patients staying in

such facilities, it should be justified to study the quality of life and monitor functional efficiency systematically. The above elements allow the condition of patients to be assessed fully and in a complex manner, allowing the selection of appropriate therapeutic methods. The quality of life of patients staying in long-term care facilities should constitute a subject of scientific research among others to select the appropriate model of care for them depending on the research tool thanks to which it would be possible to, among others, assess the health status (both physical and mental), the family situation as well as the financial situation [8].

Measurement of the quality of life may concern both objective indicators – independent of the assessment of the quality of life made by a unit, and subjective indicators – including individual, independent assessment of particular elements making up the quality of life [9,10].

## Aim

The aim was to assess the quality of life, functional efficiency and to evaluate the risk of depression in patients above 85 years of age and above staying in selected long-term care facilities in Warsaw.

## Material and methods

Due to the specificity of the studied group non-probability sampling (purposeful selection) was chosen. The study involved 107 patients; however, merely 74 patients (65 women and 9 men) of two nursing and therapeutic establishments in Warsaw who completed the above-mentioned questionnaires (their condition allowed that) were qualified for the study.

The study included people at 85 years of age and above whose condition allowed their participation in the survey. The study was conducted from November 2016 to February 2017.

A structured interview was the research method used in the study. A survey consisting of selected scales was the research tool. It included selected scales assessing various aspects of life, among others: the scale to assess basic daily life activities – Katz scale (ADL); the scale to assess complex daily life activities – Lawton scale (IADL); Quality of Life Index in its general version – Ferrans and Power; Geriatric Depression Scale (Yesa-

vage J. A. et al. 1983). The survey was completed with demographics, including among others information about education, the age until a given person was professionally active and their marital status.

In accordance with the provisions of the National Health Fund and the regulation of the Minister of Health, people entitled to stay in long-term care facilities are the people who according to the scale showing the level of demand for care of third persons obtained 40 points or less in the Barthel scale, which allows assessment of patients concerning their abilities to perform daily life activities, such as eating, getting dressed and undressed, possibility to ensure and maintain personal hygiene or use of toilets. The Katz scale consists of 6 elements: taking a bath, getting dressed and undressed, using a toilet, getting up and moving to an armchair, eating independently as well as controlling excretion of urine and stool. Independence of patients in the above listed activities is assessed. In the case of independence within given activities 1 point is given and in the case of lack of independence – 0. People independent in 5-6 activities are considered to be efficient. People who obtained 3-4 points are considered to be moderately inefficient. People who obtained 2 points or less are considered to be significantly inefficient.

The Lawton scale consists of 8 questions concerning complex daily life activities. Three possible answers are assigned to each question. The first answer concerns performing a given activity without assistance and it results in obtaining 3 points. The second answer concerns performing an activity with small assistance and it results in obtaining 2 points. If it is not possible for a person to perform an activity independently, 1 point is assigned. Performing the study several times in the specified time intervals, it is possible to observe the scale and pace of deterioration of the patient's conditions.

The Quality of Life Index (Ferrans and Powers) consists of two parts (each part consists of 33 questions). The first part concerns satisfaction from given spheres of life, while the second part concerns importance of given spheres of life for a given person. The respondents determined their satisfaction and importance of given spheres of life on a scale from 1 (very unsatisfied/completely unimportant) to 6 (very satisfied/very important). Due to the specificity of the studied group during the interviews question 11 (concerning sexual life) and question 21 (concerning work) were omitted. The above questions were not taken into account when calculating the indicators. The Quality of Life Index Score is calculated for the entire scale as well as four sub-scales. To calculate the results a template prepared in Microsoft Excel av-

ailable on the website concerning the Quality of Life Index was used [11].

The Geriatric Depression Scale according to Yesavage consists of 15 questions (possible answers: yes or no) which concern the well-being of the patient in the last two weeks. In each question one point can be obtained. Obtaining 0-5 points meant a normal condition. Obtaining 6-10 points meant moderate depression, while obtaining 11-15 points suggests severe depression. The questionnaire was completed with demographics consisting of questions concerning among others gender, year of birth, education, professional activity, marital status and net disposable income.

The statistical analysis was performed using the IBM SPSS Statistics 24 package. In order to check statistical significance between studied groups, the Kruskal-Wallis test was used. In the case of statistically significant differences, the appropriate post-hoc test was used. It allowed us to check between which groups significant differences occur. The choice was made based on homogeneity of variance in the compared groups. The analysis performed using the chi-square test allowed us to verify the existence of a significant dependency between nominal variables and to check whether the compared groups are equinumerous. In order to check whether there is a statistically significant relation between the studied variables, the Spearman correlation analysis was applied. In the statistical analysis of the results, the analysis of frequency (N, %) was performed; in the case of quantitative variables, the mean and standard deviation were analyzed. The statistically significant level was assumed to be  $p < 0.05$ .

## Results

The average age of the respondents was  $90.51 \pm 4.53$ , while the average age of completing professional activity was  $62.31 \pm 9.39$ . In table I, characteristics of the studied group were presented, including: education, work performed in the past, marital status, net disposable income, ADL scale and depression.

**Table I. Characteristics of the studied group**

	Variable	n	%
Education	Basic	18	24.3
	Vocational	15	20.3
	Secondary	30	40.5
	Higher	11	14.9
Professional activity	Physical	26	35.1
	Mental	42	56.8
	No professional activity	6	8.1

Marital status	Single	14	18.9
	Married	5	6.8
	Widowed	55	74.3
Net disposable income	Less than 500 zł	40	54.1
	501-1000 zł	18	42.3
	1001-1500 zł	12	16.2
	1501-2000 zł	3	4.1
	More than 2000 zł	1	1.4
ADL Scale	Efficient persons	17	23
	Moderately inefficient persons	17	23
	Significantly inefficient persons	40	54
Depression intensification	Normal condition	41	55.4
	Moderate depression	27	36.5
	Severe depression	6	8.1

In accordance with the results of the scale to assess basic daily life activities, 40 (54%) people were significantly inefficient, while 17 (23%) people were moderately inefficient. Efficient people constituted a significant percentage (17 people -23% of respondents). Eating was the activity in the case of which greatest independence was observed. Up to 94.6% of people were able to eat independently. Independence when getting up and moving to an armchair was declared by 51.4% of people. A similar number of people controlled excretion of urine and stools (50%) (table II).

Analyzing the results of the IADL scale to assess complex daily life activities, it is possible to argue that there is a large number of people who can use the phone without any assistance or with minor assistance of other pe-

ople (68.9% of the respondents in total). The percentage of people who do not require assistance or requiring minor assistance was 66.2% and it concerned the question of independent money management, as well. Preparing and taking medications without assistance or with minor assistance was declared by more than half of patients (56.8%).

The results obtained in the Geriatric Depression Scale (GDS) do not indicate symptoms of depression in 41 patients (55.4%) in the studied period. Suspected moderate depression based on the results of the study using the above-mentioned scale was observed in 27 people (36.5%), while severe depression was observed in 6 people (8.1%).

No relation was demonstrated between the age of the respondents and the score obtained in the Geriatric Depression Scale ( $p > 0.05$ ). However, a relation was observed between the age of completing professional activity and the score obtained in the Geriatric Depression Scale ( $p < 0.01$ ). The later the professional activity was completed, the worse the result score obtained in the Geriatric Depression Scale.

The average score obtained in the Quality of Life Index was 18.61. Also, average results were calculated for four sub-scales and they were as follows: health and functioning 16.53; socioeconomic 20.29, psychological/spiritual 18.73, family 22.83.

No relation was demonstrated between the age of the respondents and particular sub-scales of the Quality of Life Index ( $p > 0.05$ ). Such a relation is observed between the age of completing professional activity and the main value and the following sub-scales of the Quality

**Table II. Independence of patients during basic daily life activities**

Activity	Independence			
	Yes		No	
	n	%	n	%
Bathing and showering	0	0	74	100
Dressing	26	35.1	48	64.9
Toileting	21	28.4	53	71.6
Getting up and moving to an armchair	38	51.4	36	48.6
Feeding	70	94.6	4	5.4
Controlling excretion of urine and stool	37	50.0	37	50.0

**Table III. ADL Scale and intensity of depression among the respondents**

ADL Scale	Depression intensification					
	Normal condition		Moderate depression		Severe depression	
	n	%	n	%	n	%
Efficient persons	10	24.4	6	22.2	1	16.7
Moderately inefficient persons	8	19.5	5	18.5	4	66.7
Significantly inefficient persons	23	56.1	16	59.3	1	16.7

of Life Index: health, socioeconomic and family. The later the age of completing professional activity, the higher the average of the above variables (table IV).

The statistical analysis indicated that the respondents with a normal condition obtained the following results in the GDS:

- a higher average main value of the Quality of Life Index in comparison to people with moderate and severe depression ( $p < 0.01$ ),
- a higher average of the health sub-scale of the Quality of Life Index in comparison to people with moderate and severe depression ( $p < 0.01$ ),

**Table IV. Relation between age and the age of completing professional activity in the respondents with particular sub-scales of the Quality of Life Index**

Variable	QLI	QLI Health Subscale	QLI Social and Economic Subscale	QLI Psychological Subscale	QLI Family Subscale
Age	-0.06	0	-0.15	-0.01	-0.01
Age of completing professional activity	<b>-0.33**</b>	<b>-0.26*</b>	<b>-0.25*</b>	-0.21	<b>-0.26*</b>

\* $p < 0.05$ ; \*\* $p < 0.01$

**Table V. Severity of depression in the respondents in comparison to the results obtained in particular sub-scales of the Quality of Life Index**

QLI Subscale	Depression intensification					
	Normal condition		Moderate depression		Severe depression	
	M	SD	M	SD	M	SD
Main Value	19.92	2.98	17.34	2.18	15.41	3.22
Health Subscale	18.05	3.49	15.01	3.42	12.87	3.49
Social and Economic Subscale	21.38	2.9	19.4	2.6	16.76	4.83
Psychological Subscale	20.37	3.73	17.2	3.16	14.37	2.92
Family Subscale	22.91	4.93	22.74	4.9	22.63	5.76

**Table VI. Collective table presenting the impact of the obtained results on the sub-scales of the Quality of Life Index (average  $\pm$  standard deviation)**

Variable		QLI Main Value	Health Subscale	Social and Economic Subscale	Psych. Subscale	Family Subscale
Depression intensification	Normal condition	19.92 $\pm$ 2.98	18.05 $\pm$ 3.49	21.38 $\pm$ 2.9	20.37 $\pm$ 3.73	22.91 $\pm$ 4.93
	Moderate depression	17.34 $\pm$ 2.18	15.01 $\pm$ 3.42	19.4 $\pm$ 2.6	17.2 $\pm$ 3.16	22.74 $\pm$ 4.9
	Severe depression	15.41 $\pm$ 3.22	12.87 $\pm$ 3.49	16.76 $\pm$ 4.83	14.37 $\pm$ 2.92	22.63 $\pm$ 5.76
	H	22.33	15.12	13.45	18.03	0.07
	P	< 0.001***	0.001**	0.001**	< 0.001***	0.97
Net disposable income	Less than 500 zł	18.91 $\pm$ 2.78	17.1 $\pm$ 3.8	20.33 $\pm$ 2.71	18.49 $\pm$ 3.82	24 $\pm$ 4.02
	501-1000 zł	18.58 $\pm$ 4.3	16.14 $\pm$ 4.62	21.04 $\pm$ 4.39	19.55 $\pm$ 4.99	20.7 $\pm$ 6.29
	1001-1500 zł	18.12 $\pm$ 2.02	16.01 $\pm$ 2.88	19.48 $\pm$ 3.4	18.6 $\pm$ 2.8	21.4 $\pm$ 4.1
	H	1.03	1.97	2.31	0.71	4.84
	p	0.6	0.37	0.32	0.7	0.09
Education	Basic	19.11 $\pm$ 2.56	17.8 $\pm$ 2.96	20.26 $\pm$ 2.7	18.43 $\pm$ 4.14	24.97 $\pm$ 5.93
	Vocational	18.97 $\pm$ 3.93	17.52 $\pm$ 4.12	19.4 $\pm$ 3.99	19.18 $\pm$ 3.91	22.47 $\pm$ 5.47
	Secondary	18.64 $\pm$ 3.07	15.98 $\pm$ 3.8	20.68 $\pm$ 3.36	18.95 $\pm$ 3.92	23.34 $\pm$ 3.8
	Higher	17.24 $\pm$ 3.14	14.56 $\pm$ 4.31	20.48 $\pm$ 2.91	18.02 $\pm$ 4.28	19.23 $\pm$ 4.28
	H	2.49	4.79	2.43	0.41	7.87
	p	0.48	0.19	0.49	0.94	0.049*
Age	$\rho$	-0.06	0	-0.15	-0.01	-0.01
	p	0.61	0.99	0.21	0.9	0.9
Age of completing professional activity	$\rho$	<b>-0.33**</b>	<b>-0.26*</b>	<b>-0.25*</b>	-0.21	<b>-0.26*</b>
	p	0.007	0.03	0.04	0.08	0.04

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; H – Kruskal – Wallis test;  $\rho$  – Spearman correlation analysis

- a higher average of the socioeconomic sub-scale of the Quality of Life Index in comparison to people with moderate ( $p < 0.05$ ) and severe depression ( $p < 0.01$ ),
- a higher average of the psychological/spiritual sub-scale of the Quality of Life Index in comparison to people with moderate and severe depression ( $p < 0.01$ ).

Statistically significant differences were not demonstrated between the main value of the Quality of Life Index and particular sub-scales ( $p > 0.05$ ). Taking the education of the respondents into account, statistically significant differences were observed in terms of the family sub-scale of the Quality of Life Index ( $p < 0.05$ ). People with higher education obtained a lower average value for the family sub-scale of the Quality of Life Index in comparison to people with primary school education (table VI).

## Discussion

The percentage of elderly people is growing. In accordance with the forecasts the above trend will continue for several coming decades. Limited possibilities of care for elderly people provided by family and friends result in a significant increase in the demand for nursing and care services. The quality of life of patients of long-term care facilities depends on numerous factors. From the studies conducted by Fidecki W., Wrońska I., Kędziora-Kornatowska K. et al. it can be concluded that during the analysis of the quality of life of elderly people, physical, mental, material and social determinants must be taken into account [12]. An important element affecting the self-assessment of the quality of life in this age group is among others: health, place of stay, family and family relations, education and income.

Due to the limited number of publications concerning studies of the quality of life of patients staying in long-term care facilities as well as the occurrence of similarities between people staying in facilities of the social sector, the obtained results were compared to the results obtained within the studies conducted in nursing homes.

The age average (above 90) obtained in the study results from the fact of including only people at the age of 85 or above (the beginning of the so-called frail old age) in the analysis. The decision affecting the selection of the study group was dictated among others by the fact that people at this age are characterized by an increased risk of functional deficiencies and potentially worse quality of life. However, younger people also stay in long-term care facilities. Therefore, it is not possible to refer

the above results to the entire population of people staying in such facilities.

Women constituted the majority of the analyzed group (87.8%). High feminization indicators were also observed in the studies conducted in nursing homes by Jachimowicz V., Kostka T., Kurkowska K. and Kajut A., and in the studies conducted by Toczyńska A., Krajewska-Kułak E., and Łukaszuk C. in long-term care facilities [13-16]. A larger number of women staying in such facilities is directly related to the average life expectancy of both genders. In the oldest age groups a significant advantage in the number of women over men is observed.

In the analyzed full-time care facilities, a greater number of patients performed mental work in the past (56.8%) and had higher education (75.7%). The above may result from the location of the facilities in a large city. The results obtained in the studies conducted by Wdowiak L., Stanisławek D. and Stanisławek A. in full-time long-term care facilities in smaller towns indicated a much smaller percentage of people performing mental work in the past (16.4%) and of people with higher education (21.2%) [16].

Results in the ADL scale indicate that nearly 1/3 of the studied people (23%) who obtained 5-6 points are functionally efficient. Stay of efficient people in NTEs is confirmed by the study conducted in one of the private facilities outside Warsaw by Toczyńska A., Krajewska-Kułak E., and Łukaszuk C. The percentage of efficient people was significantly lower there and it was 11% [15]. Stay of efficient people in full-time long-term care facilities can result from the fact that the Barthel scale used to assess functional efficiency of patients when admitted to a facility is not perfect. In the European Union countries tools in the form of ADL and IADL scales are used.

Results of the studies show high indicators in the Geriatric Depression Scale indicating moderate depression (36.5%) among the studied population. Studies conducted by Płaszewska-Żywko L., Brzuzan P. and Malinowska-Lipień I. in nursing homes and by Toczyńska A., Krajewska-Kułak E. and Łukaszuk C. in full-time long-term care facilities confirm moderate depression in a significant number of patients (44.6% and 43% of patients with moderate depression respectively) [15,17]. Therefore, the mental condition of patients should be monitored and appropriate therapies to minimize the consequences of depression should be implemented. In accordance with the results of the studies conducted by Płaszewska-Żywko L., Brzuzan P. and Malinowska-Lipień, the risk of depression is not related to age which is confirmed by the study aimed at evaluating functional efficiency and depression conducted in nursing homes

[17]. However, studies indicating the existence of the relation between the discussed variables was published [15].

The average main score of the Quality of Life Index was 18.61. As a comparison, the average main score of the Quality of Life Index in the study conducted on 161 patients in ten nursing homes in Taiwan aged 65 and more by Tseng SZ., Wang RH. Was 15.9 [18].

The statistical analysis demonstrated the lack of a significant relation between the age of the respondents and particular average scores of the Quality of Life Index. The lack of the discussed relation was also confirmed by the study of the quality of life of older people conducted by Kurkowska K. and Kajut A. in nursing homes using a research tool (WHOQOL-Bref) [14]. While, the study conducted by Fidecki W., Wrońska I. and Kędziora-Kornatowska K. on patients of long-term care facilities indicated a relation between age and the quality of life [12]. In the study conducted by Humańska M.A. and Kędziora-Kornatowska K. people who did not indicate tendencies of depression in the geriatric depression scale obtained better results of the main value of the Quality of Life Index and all sub-scales, except for the family sub-scale. The impact of depression on decreasing the quality of life is also confirmed in the studies conducted on people staying in nursing homes [19].

## Conclusions

Based on the results of the study and the statistical analysis performed, the following conclusions were made:

1. One quarter of the studied patients aged + 85 staying in full-time long-term care facilities indicate high functional efficiency. However, it is justified to conduct more studies concerning efficiency of patients in long-term care facilities and limit the number of efficient people in such facilities for patients who require such care.
2. The age of patients, their education and net disposable income may not affect the quality of life of people staying in long-term care facilities. Further studies should be conducted in this field as previous studies conducted among others by the Central Statistical Office of Poland demonstrate a relation between the discussed variables.
3. People with suspected depression are characterized by lower quality of life. Admitting patients and during their stay in NTEs, it is necessary to run diagnostics concerning depression and implement appropriate treatment procedures.

Conflict of interest

None

## References

1. Główny Urząd Statystyczny. Ludność w wieku 60 lat i więcej. Warszawa: Departament Badań Demograficznych i Rynku Pracy; 2016.
2. Główny Urząd Statystyczny. Sytuacja demograficzna osób starszych i konsekwencje starzenia się ludności Polski w świetle prognozy na lata 2014-2050. Warszawa: Departament Badań Demograficznych i Rynku Pracy; 2014.
3. Błędowski P, Wilmonska-Pietruszyńska A. Organizacja opieki długoterminowej w Polsce – problemy i propozycje rozwiązań. *Polityka Społeczna*. 2009;7:9-13.
4. Błędowski P, Maciejasz M. Rozwój opieki długoterminowej w Polsce – stan i rekomendacje. *Now Lek*. 2013;82(1):61-9.
5. Derejczyk J, Bień B, Kokoszka-Paszkot J, et al. Gerontologia i geriatryka w Polsce na tle Europy – czy należy inwestować w ich rozwój w naszym kraju? *Gerontol Pol*. 2008;16(3):149-59.
6. Fedyk-Łukasik M. Całościowa Ocena Geriatryczna w codziennej praktyce geriatrycznej i opiekuńczej. *Geriatryka i opieka długoterminowa*. 2015;1:1-5.
7. Fidecki W, Wysokiński M, Skupiński K, et al. Elements of the comprehensive geriatric assessment of seniors staying in social welfare homes. *Gerontol Pol*. 2016;24:26-31.
8. Szewczyczak M, Stachowska M, Talarska D. Ocena jakości życia osób w wieku podeszłym – przegląd piśmiennictwa. *Now Lek*. 2012;81(1):96-100.
9. Wnuk M, Marcinkowski J. Jakość życia jako pojęcia pluralistyczne o charakterze interdyscyplinarnym. *Probl Hig Epidemiol*. 2012;93(1):21-6.
10. Panek T. Jakość życia od koncepcji do pomiaru. Warszawa: Szkoła Główna Handlowa w Warszawie – Oficyna Wydawnicza; 2016. p. 35-37.

11. Ferrans and Powers. Quality of Life Index, Questionnaires and Scoring. Pozyskano z: <https://qli.org.uic.edu/questionnaires/questionnairehome.htm>, dostęp z dn. 17.03.2017 r.
12. Fidecki W, Wrońska I, Kędziora-Kornatowska K, et al. Jakość życia związana ze stanem zdrowie osób w podeszłym wieku objętych opieką długoterminową. *Gerontol Pol.* 2015;1:24-8.
13. Jachimowicz V, Kostka T. Ocena poczucia własnej skuteczności u pensjonariuszy Domu Pomocy Społecznej. *Gerontol Pol.* 2009;17(1):23-31.
14. Kurkowska K, Kajut A. Samoocena jakości życia osób starszych na przykładzie pensjonariuszy Domu Pomocy Społecznej (DPS). *Psychogeriatr Pol.* 2011;8(2):55-62.
15. Toczyńska A, Krajewska-Kułak E, Łukaszuk C. Samoocena wybranych aspektów jakości życia podopiecznych objętych długoterminową opieką stacjonarną. *Probl Piel.* 2012;20(3):369-79.
16. Wdowiak L, Stanisławek D, Stanisławek A. Jakość życia w stacjonarnej opiece długoterminowej. *Medycyna Rodzinna* 2009;4:49-63.
17. Płaszewska-Żywko L, Brzuzan P, Malinowska-Lipień I, et al. Sprawność funkcjonalna u osób w wieku podeszłym w domach pomocy społecznej. *Probl Hig Epidemiol.* 2008;89(1):62-6.
18. Tseng SZ, Wang RH. Quality of life and related factors among elderly nursing home residents in Southern Taiwan. *Public Health Nurs.* 2001;18(5):304-11.
19. Humańska MA, Kędziora-Kornatowska K. Współzależność pomiędzy nasileniem stanów depresyjnych a poczuciem jakości życia u osób starszych. *Psychogeriatr Pol.* 2009;6(1):15-22.