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Selected Aspects of the Quality of Life of Patients After Ischemic Stroke

Wybrane aspekty jakości życia chorych po niedokrwiennych udarach mózgu

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Abstract

Introduction. Ischemic stroke is the main cause of disability, it worsens the quality of life of patients and often leads to death.

Aim. The aim of the study was to assess the quality of life of patients after ischemic stroke, as well as to identify the factors that determine it.

Material and Methods. The study included 53 patients within the period ranging from 6 to 12 months after the first occurrence of ischemic stroke and meeting the inclusion criteria for the study. The quality of life was examined by author questionnaire survey, based on the Barthel Scale, WHOQOL-BREF Scale and the Polish adaptation of the Stroke-Specific Scale Quality of Life (Polish: SJŻUM). The questionnaire consists of 12 subscales, being the components of three the main areas: physical, psychological and socio-environmental.

Results. The quality of life after ischemic brain stroke deteriorates. In the physical sphere the biggest restrictions apply to upper limb functioning (with the average $M=3.77$) and self-service (with the average $M=3.83$), in the psychological field they refer to emotions (the average $M=3.93$), and in the socio-environmental sphere to the social role (with the average $M=2.79$). The average of the results obtained in each of those fields shows that the best results were obtained in the field of psychology.

Conclusions. The variables that determine the quality of life include: age, the level of education, marital status, the side of brain damage, economic status, the level of knowledge. (JNNN 2016;5(2):69–75)

Key Words: quality of life, ischemic stroke, quality of life assessment scales

Streszczenie

Wstęp. Udar niedokrwienny mózgu stanowi główną przyczynę niepełnosprawności, pogarsza jakość życia chorych, a często także prowadzi do śmierci.

Cel. Celem badania była ocena jakości życia chorych po niedokrwiennym udarze mózgu, jak i identyfikacja czynników ją determinujących.

Materiał i metody. Badaniem objęto 53 osoby, w okresie od 6 do 12 miesięcy od wystąpienia pierwszego udaru niedokrwiennego mózgu oraz spełniających kryteria włączenia do badania. Jakość życia badano autorskim kwestionariuszem ankiety, opartym na Skali Barthel, WHOQOL-BREF oraz na polskiej adaptacji skali Stroke Specific-Quality Of Life (SJŻUM). Kwestionariusz składa się z 12 podskal, będących składowymi trzech głównych dziedzin: fizycznej, psychologicznej i socjalno-środowiskowej.

Wyniki. Jakość życia po udarze niedokrwiennym mózgu ulega pogorszeniu. W dziedzinie fizycznej największe ograniczenia dotyczą funkcji kończyny górnej (ze średnią $M=3,77$) oraz samoobsługi (ze średnią $M=3,83$), w dziedzinie psychologicznej emocji (ze średnią $M=3,93$), a w dziedzinie socjalno-środowiskowej roli społecznej (ze średnią $M=2,79$). Średnia uzyskanych wyników z poszczególnych dziedzin wskazuje na najlepsze uzyskane wyniki w zakresie dziedziny psychologicznej.

Wnioski. Zmiennymi determinującymi jakość życia są: wiek, poziom wykształcenia, stan cywilny, strona uszkodzenia mózgu, status materialny, poziom wiedzy. (PNN 2016;5(2):69–75)

Słowa kluczowe: jakość życia, udar niedokrwienny mózgu, skale oceny jakości życia

Introduction

Stroke is a significant challenge for the contemporary world, and as well as for medicine. It is characterised by a high mortality rate, the third biggest, just after ischemic heart disease and cancer. According to the data, it is assumed that in Europe within the first three months after the onset more than 20% of patients die, and another 20% do not regain their pre-disease ability and remain often totally dependent on others. Six months after the vascular event, on average half of the patients experience strengthening of hemiparesis, in 30% there occurs motor coordination disorder, and in the case of 20% of patients aphasia remains. Also, there might appear anxiety or depression disorders [1]. Initially, patients and doctors used to have a negative attitude to the treatment of strokes, the possibility of implementing prevention was assessed in a pessimistic way. Only in the second half of the twentieth century with the development of diagnostic techniques, more attention started to be drawn to risk factors for strokes, and emphasis on care and rehabilitation for these diseases increased.

The establishment of the National Programme for Prevention and Treatment of Stroke in 1997 was a real breakthrough. They focused then on the problems of epidemiology, the number of cases and how to reduce them as well as on the reduction of disability [2]. Studies carried out in the US between 1945 and 1954 as well as from 1975 to 1979 showed a downward trend of cases of stroke by up to 34%. In the periods from 1981 to 1984, and from 2002 to 2004 the situation was very similar in the UK since the decline in the incidence was then 29% [3]. In Poland, the annual number of cases is 60 thousand (has remained at a relatively constant level for years), however only 36 thousand survive. In addition, more than half of this group is characterised by a significant deficit, or even the lack of self care as well as the need for continuous treatment combined with a long-term process of rehabilitation [4]. However, it is insufficient to determine neurological deficit, as the main aspect of clinical assessment. Correct assessment of the quality of life requires a holistic approach to patients, therefore treating them as a bio-psycho-social entity [5]. The Report by the Experts of the National Programme for Prevention and Treatment of the Brain Stroke assumes that the quality of life should be subject to evaluation during the stroke rehabilitation [6].

Already in ancient times there were attempts to determine the condition for a happy and satisfying life. It is said that these investigations of great thinkers such as Hippocrates and Aristotle gave rise to reflection on the quality of life. There have been numerous interpretations of what it could be [7]. The concept of the quality of life according to the World Health Organization emerged after World War Two and assumed that it means a good

physical, mental and social well-being and not merely the absence of a disease. In 1978, the scope of the definition was considerably broadened, taking into account the sense of an individual in relation to their position in life regarding their system of values, the cultural aspect, expectations, or even interests [6]. According to Schipper the quality of life necessarily entails an ongoing process of a disease (the quality of life depends on health condition). He distinguishes four aspects of the patient's functioning, which include: the physical condition, mental state, social and economic situation and also somatic experience [7]. In 1979, in the "Age and Ageing" journal there appeared first study on the quality of life of patients after stroke. The authors: Lawrence and Christi put forward a thesis that within three years of the onset of stroke, the quality of life understood as a life situation deteriorates in many areas, not only in the understanding of physical disability [8]. It is extremely difficult to define the factors determining the quality of life, however, patient's age, gender, functional status, social status and support as well as mental state are usually mentioned [6].

The aim of this study was to assess the quality of life of patients after ischemic stroke and to identify the factors determining it.

Material and Methods

The study included 53 patients (27 women and 26 men) treated in Railway Hospital in Wilkowiec-Bystra at the Ward of Neurological Rehabilitation, fulfilling the inclusion of the following criteria: the occurrence of the first ischemic stroke, the lack of co-existence of chronic diseases except for stroke risk factors, the patient's condition allowing to answer the questions asked, lack of mental diseases, the time criterion: 6–12 months following the onset. Clinical diagnosis of ischemic stroke was observed on the basis of the documentation (in each case it was the outcome of tomography of the head) based on the definition of the World Health Organization. To measure the quality of life there was applied the author's questionnaire based on the Barthel Scale, WHOQOL-BREF Scale (short version) and the Polish version of the Stroke-Specific Quality of Life Scale — Scale of Quality of Life after stroke (Polish: SJŻUM). This questionnaire refers to the fundamental aspects of life: physical, psychological and socio-environmental spheres. The questions were additionally subordinated to 12 sub-scales regarding: self-service, communication, sight, upper limb functioning, emotions, social support, work, social role, the role in the family, pain, material status and health service. In addition, two questions relate to the subjective assessment of the quality of life

and health condition. At the end of the questionnaire there is an imprint on gender, age, marital status, place of residence, level of education, type of work performed, paralysed side, religion and possible addictions.

Results

The study included 53 patients after ischemic brain stroke. The group of respondents included 51% of female and 49% of male patients. The largest group were the patients aged 60–74 years — 43%, people aged 75–89 years accounted for 25%, those at the age of 45–59 years — 23%, under 45 — 8%, whereas those over 89 years of age accounted for 2% of respondents. The majority of respondents were married — 62%. Those widowed accounted for 25% of the respondents, 8% of respondents declared to be unmarried, 6% were divorced. Patients with basic education accounted for 36%, 28% of respondents had secondary education, 26% of respondents had primary whereas 4% of respondents had higher education. In 51% of respondents there was paresis of the right side, whereas in 49% of the surveyed — paresis of the left side. The lowest level of the questionnaire surveying the quality of life of patients after ischemic stroke was scored by the respondents in the field of social role (M=2.79), whereas the highest level in the field of material status (M=4.4) and communication (M=4.23) (Figure). The analyses showed that women did not differ significantly from men in terms of the level of each scale of the questionnaire. Rho-Spearman correlation analyses proved that the older the respondents were, the lower score

on all scales of the questionnaire was obtained, ie. in the field of self-service, communication, sight, upper limb functioning, emotions, social support, work, social role, the role in the family, pain, material status and health service. The analysis of the rho-Spearman correlation proved that the higher the level of education of the surveyed, the higher the level they obtained in terms of sight, work and of the social role. Those who are married obtained higher level in terms of social support and social role than the widowed. Conducting analyses by means of the Mann-Whitney test it has been shown that patients with right-sided hemiparesis obtained higher level in terms of self-service, sight, social support, work and social role than those with left-sided hemiparesis (Table 1). Based on the analysis of the rho-Spearman correlation between the level of material status and the assessment of the quality of life of respondents it was stated that the higher level of respondents' material

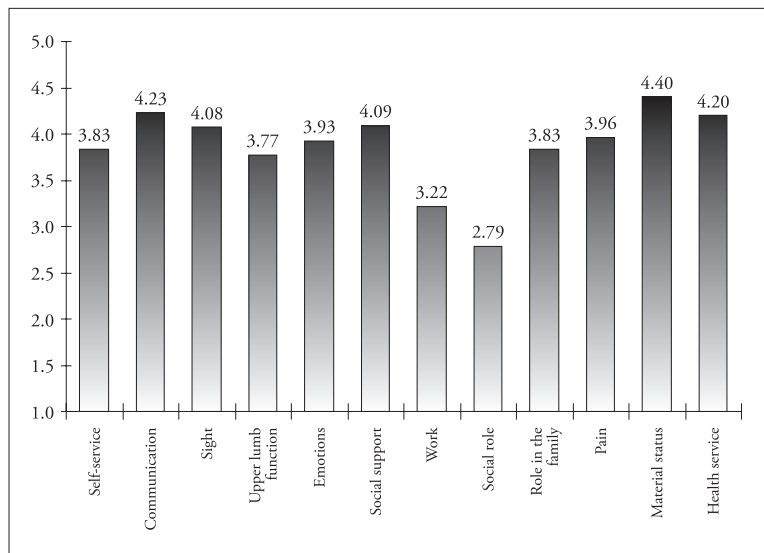


Figure. The average level of the scales of the questionnaire

Table 1. Side of paresis and the level of each scale of the questionnaire

Evaluation of the quality of life of patients after ischemic stroke	Side of paresis	Average	Standard deviation	Result from test Z	Level of significance
1	2	3	4	5	6
Self-service	Right-sided	4.13	1.32	1.98	0.048
	Left-sided	3.53	1.48		
Communication	Right-sided	4.41	0.95	1.90	0.058
	Left-sided	4.05	0.81		
Sight	Right-sided	4.39	0.97	2.24	0.025
	Left-sided	3.77	1.20		
Upper limb function	Right-sided	4.06	1.39	1.75	0.080
	Left-sided	3.48	1.27		
Emotions	Right-sided	4.05	0.65	1.79	0.073
	Left-sided	3.80	0.69		

Table 1. Continued

1	2	3	4	5	6
Social support	Right-sided	4.30	0.50	2.04	0.042
	Left-sighted	3.87	0.91		
Work	Right-sided	3.68	1.47	2.09	0.036
	Left-sighted	2.76	1.48		
Social role	Right-sided	3.21	1.18	2.38	0.017
	Left-sighted	2.36	1.18		
Role in the family	Right-sided	4.07	1.04	1.77	0.077
	Left-sighted	3.59	1.01		
Pain	Right-sided	4.19	0.88	1.79	0.073
	Left-sighted	3.73	0.97		
Material status	Right-sided	4.41	0.54	0.43	0.668
	Left-sighted	4.38	0.48		
Health service	Right-sided	4.31	0.72	0.63	0.530
	Left-sighted	4.08	0.95		

Table 2. The coefficients of correlation between the level of knowledge and the level of each scale of the questionnaire

Evaluation of the quality of life of patients after ischemic stroke	Level of knowledge	
	rho-Spearmana	Level of significance
Self-service	0.58	<0.001
Communication	0.55	<0.001
Sight	0.45	0.001
Upper lumb function	0.50	<0.001
Emotions	0.37	0.007
Social support	0.14	0.310
Work	0.51	<0.001
Social role	0.52	<0.001
Role in the family	0.44	0.001
Pain	0.33	0.015
Material status	0.18	0.191
Health service	0.21	0.124

status, the better their assessment of the quality of life. In addition, analyses of the rho-Spearman correlation showed that the higher the level of knowledge on the risk factors for stroke, the higher the level they obtained in terms of self-care, communication, sight, upper limb functioning, emotions, work, social role, the role in the family and pain in the questionnaire surveying the quality of life of patients after ischemic stroke of the brain (Table 2).

These studies demonstrated a significant effect of age on the subjective assessment of the quality of life and on the assessment of one's health condition. It is also

Table 3. The coefficients of correlation between age and the resulting level of individual scales of the questionnaire

Evaluation of the quality of life of patients after ischemic stroke	Age	
	rho-Spearmana	Level of significance
Self-service	-0.60	<0.001
Communication	-0.57	<0.001
Sight	-0.60	<0.001
Upper lumb function	-0.63	<0.001
Emotions	-0.40	0.003
Social support	-0.33	0.015
Work	-0.57	<0.001
Social role	-0.57	<0.001
Role in the family	-0.53	<0.001
Pain	-0.53	<0.001
Material status	-0.33	0.015
Health service	-0.28	0.039

specified that the more advanced the age, the lower score was determined on all subscales subject to assessment (Table 3).

Discussion

Analyzing the results obtained, it has been concluded that the average quality of life of patients subject to tests, assessed in accordance with the feelings of the patient, without taking into account all the factors determining it oscillates between average and good

($M=3.55$). Only 8 out of 53 of those surveyed defined their quality of life as very good. That means that the quality of life is deteriorating, compliant with the assumption by the authors — Jaracz and Kozubski [9].

In the Physical Sphere the greatest limitations related to upper limb function, and self-service; in the psychological field they regarded emotions and in the socio-environmental sphere the social role. The top rated included: communication in the physical field, social support in the psychological field and material status in the social and environmental one. Slightly different results were obtained by the aforementioned authors [9,10]. The biggest limitations were assigned to the categories corresponding to running a household, recreation and the free time, belonging to independent categories as well as to mobility as a component of the physical field. However, taking into consideration the age of the respondents, the profile of restrictions becomes different and the biggest problems arise in connection with the hygiene of the body, emotions, mobility and running the household. An important role has been subscribed to social support, which would have a positive effect on the unpleasant consequences of the disease. Taking into account the overall study, the final, generalized results are difficult to compare, as the authors combine two areas: psychological and socio-environmental defined as psychosocial limitations. They confirm therefore that physical limitations are larger than psychosocial constraints. They stipulate however, that in the absence of significant functional deficit, psychosocial constraints come to the fore. Whereas the views regarding worse assessment of the physical field compared to that of the psychological sphere perceived separately with the socio-environmental field are compliant with this work [9,10]. In the studies carried out by Weber-Rajek et al. there were oppositely presented the best results in terms of social relations, and accordingly the lowest related to physical and environmental fields [5]. Also, Broła and Węgrzyn differently assess that disorders in the cognitive sphere are defined by patients as more burdensome than the difficulties associated with a deficit of mobility. As factors particularly deteriorating the quality of life, the author presents the problems connected with communication, intellectual limitations as well as those associated with the cognitive sphere, including emotions, or weakened memory [4]. Jarosławska and Błaszczuk obtained results proving that the surveyed patients assessed their quality of life as the lowest in the following subscales: general health, the role of physical limitations, and physical functioning. The effect of social support was not studied here [6].

It has also been proved that gender does not generate differences in each field determining the quality of life. Women achieve a slightly higher score compared to men in the field of self-service ($M=3.90$ vs. $M=3.76$),

social support ($M=4.15$ vs. $M=4.02$), social role ($M=2.80$ vs. $M=2.78$), pain ($M=4.04$ vs. $M=3.88$) and health service ($M=4.23$ vs. $M=4.15$). This is not however a statistically significant value. In the study by Jaracz and Kozubski the effect of gender on changes in the quality of life at a specific time interval was studied. The study also showed no statistically significant dependence, however, women defined their quality of life, functional and emotional status worse than men did. [9,10]. Similarly, in the case of the study by Jarosławska and Błaszczuk gender had no significant effect on the results of the SF-12 Scale [6]. Different conclusions are presented by Jucha where the male respondents had higher scores in terms of the functional status of the patients surveyed [11].

These studies demonstrated a significant effect of age on the subjective assessment of the quality of life and on the assessment of one's health condition. It is also specified that the more advanced the age, the lower score was determined on all subscales subject to assessment.

The presented results are inconsistent with those obtained by Jarosławska and Błaszczuk. In the study, one's health condition (particularly, health was assessed in relation to the physical aspect) was assessed worst by respondents aged between 45 and 64. Despite this dependence, no statistically significant effect of age on the result presented on the SF-12 Scale has been indicated. However, age is to have an impact on the subscale regarding pain/discomfort [6].

Jaracz and Kozubski state that age is not a factor conditioning the process of changing the quality of life, despite the fact that the profile of dysfunction changes according to the process of natural aging. It is assumed, however, that older people have greater problems with organising their free time and that does not depend on the overall health condition of patients [9,10]. According to Kleinrok et al. age is one of the factors affecting the average score on a scale measuring the degree of disability (MRS — Modified Rankin Scale) and the score on the Barthel Scale measuring the level of patient's independence [1]. In the studies carried out by Jucha there appears a statement saying that patients who have not crossed the threshold of old age better evaluated their quality of life in such domains as memory, communication, the ADL/IADL Scale, mobility and hand function. It was stated, however, that only the assessment in the domain of memory constitutes a statistically significant difference [11]. Reduction of independence, increase of reliance on third persons, sometimes problems in meeting one's basic needs, as well as any other involution changes associated with aging of the body, as such determine the deterioration of the quality of life, therefore the relationship between age and the quality of life of the patient after ischemic brain stroke seems to be evident.

It has been proved in the study that a higher level of education affects the achievement of higher assessments in terms of sight, work and social role. The aforementioned Kleinrok et al. declare that a lower level of education affected the achievement of higher score on MRS (Modified Rankin Scale), which indicates a higher degree of disability in these patients. The level of education was also important in the case of the Barthel Scale. A lower education level combined with older age influenced the achievement of lower scores compared to those obtained by the younger and better-educated (the difference up to 20 points) [1]. Researchers Jaracz and Kozubski examining a possible impact of education on the form of changes in the quality of life at a specific time interval, have not reported any significant relationship [9,10]. The work of Jarosławska and Błaszczuk, in turn, shows the relationship between physical pain and the level of education [6]. According Jucha the lowest scores in all evaluated areas (ie. strength, memory, emotional state, the ability to communicate, ADL/IADL, the ability to move, function of the hand, participation in social life) were obtained by a group of people declaring themselves to be farmers, where all respondents had primary education. White-collar workers (with at least secondary education) obtained the highest scores in all areas compared to the others [11].

In this study there has been shown a significant interaction between people who are married and the widowed in the areas of social support and social role. The former obtained higher scores in both areas. The latter in all evaluated 12 subscales achieved the lowest scores. In other research, one can find confirmation of the assumption that the marital status has a significant impact on the average score on the MRS and Barthel Scale. Unmarried respondents were characterized by the deterioration of the functional state, thus indirectly by worse quality of life than other patients [1]. In the case of publication by Jaracz and Kozubski there was no relationship between the marital status and change in the quality of life over time after the onset of stroke [9,10].

An interesting result of the analysis is the fact that patients with damage to the left hemisphere of the brain resulting from ischemic stroke, achieved higher level in the areas including self-service, sight, social support, work and social role than those with damage to the right hemisphere. Despite the fact that the remaining differences were not statistically significant, it is worth noting that people with right-sided hemiparesis achieved greater range of points in each of the evaluated area than the respondents with left-sided stroke. The outcome of this study might be associated with the opinion that brain damage (particularly to the right hemisphere), limit the awareness of one's own disorders in patients and hinder the correct assessment of their situation in life [4]. Ja-

rosławska and Błaszczuk analysed the impact of the presence of paralysis on the results of the SF-12. Physical functioning turned out to depend on the presence of paralysis. That is obvious and cannot be subject to comparison [6]. The relation of depression and the damaged side of brain was also studied. However, no relations has been found between those variables [10].

Trying to answer the question of whether the material status determines the quality of life, it can be concluded that the better the respondents assessed their financial status, the better they evaluated their quality of life. Probably this results from the regularity between higher income and greater opportunities to improve one's health. These results are consistent with the results obtained by Jucha where worse results were stated in terms of the functional status and quality of life of farmers [11].

Author's study points to the huge deficit of patients' knowledge on risk factors for stroke. Based on these reports, it was shown that the higher the level of respondents' knowledge, the better they assessed their quality of life. A higher level of knowledge translates into higher scores in terms of self-care, communication, sight, upper limb function, emotions, work, social role, the role in the family and pain.

Conclusions

1. The quality of life after ischemic brain stroke deteriorates. In the physical area most restrictions apply to the upper limb functioning (with the average $M=3.77$) and self-service (with the average $M=3.83$), in the field of psychological emotions (with the average $M=3.93$), and the social role in socio-environmental area (with the average $M=2.79$). The average of the scores obtained in each area indicates that the best results were obtained in the psychological sphere.
2. Subjective evaluation of the quality of life of the respondents has been assessed at a good level.
3. The variables that determine the quality of life include: age, education level, marital status, side of brain damage, material status as well as the level of knowledge.

Implications for Nursing Practice

The patient after an ischemic stroke should be cared for, based on the principles of holism. One should try to depart from the tendency of focusing on physical symptoms themselves along with motoric deficit. It is essential to shape and improve one's abilities to adapt, so that patients would not perceive themselves through

the prism of the disease. According to the study, patients should be prepared to functioning in many areas included in the subscales of the questionnaire surveying the quality of life of patients after ischemic brain stroke, and in particular every effort ought to be made to adapt patients in the possibly highest level to fulfill their role in society. The occurrence of ischemic stroke is usually associated with permanent disability, as well as an increase or total dependence of the patient on third persons. Staying in hospital just after the stroke occurrence might seem to have the key role here but it is the family that will have the greatest impact on patients and their perception of their quality of life. In order to make it the highest possible, more time and attention should be devoted to the education of families and caretakers of patients after the stroke.

References

- [1] Kleinrok A., Płaczkiwicz D., Stefańczyk P., Kudrelek K. Wpływ wybranych czynników socjodemograficznych i klinicznych na stopień niepełnosprawności pacjentów hospitalizowanych z powodu udaru mózgu. *Prz Med Univ Rzesz Inst Leków*. 2013;11(2):151–163.
- [2] Marciniak M., Królikowska A., Ślusarz R., Jabłońska R., Książkiewicz B. Opieka pielęgniarska w udarach mózgu. *Probl Pielęgn*. 2010;1(1):83–88.
- [3] Grabowska-Fudala B., Jaracz K., Górna K. Zapadalność, śmiertelność i umieralność z powodu udarów mózgu — aktualne tendencje i prognozy na przyszłość. *Prz Epidemiol*. 2010;64:439–442.
- [4] Broła W., Węgrzyn W. Jakość życia po udarze mózgu. *Stud Med*. 2006;3:161–167.
- [5] Weber-Rajek M., Ciechanowska K., Mieszkowski J., Nie-spodziński B., Wycech M., Perzyńska A. Wpływ zasobów psychicznych na jakość życia chorych po udarze niedokrwiennym mózgu. *J Health Sci*. 2014;4(9):51–60.
- [6] Jarosławska B., Błaszczuk B. Jakość życia chorych po przebytych udarze niedokrwiennym mózgu leczonych w rejonie szpitala powiatowego. *Stud Med*. 2012;26(2):19–29.
- [7] Trzebiatowski J. Jakość życia w perspektywie nauk społecznych i medycznych — systematyzacja ujęć definicyjnych. *Hygeia Public Health*. 2011;46(1):25–31.
- [8] Bejer A., Kwolek A. Ocena jakości życia osób starszych po udarze mózgu — doniesienia wstępne. *Fizjoterapia*. 2008;16(1):52–63.
- [9] Jaracz K., Kozubski W. Jakość życia po udarze mózgu. Część I — badania prospektywne. *Udar Mózgu*. 2001;3(2):55–62.
- [10] Jaracz K., Kozubski W. Jakość życia po udarze mózgu. Część II — uwarunkowania kliniczne, funkcjonalne i społeczno-demograficzne. *Udar Mózgu*. 2001;3(2):63–70.
- [11] Jucha R. Stan funkcjonalny oraz jakość życia po przebytych udarze niedokrwiennym mózgu u chorych zamieszkałych na terenach wiejskich oraz w małych miastach. *Prz Lek*. 2012;69(3):98–102.

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