

SOCIOLOGICAL MEASURING OF QUALITY OF LIFE OF AGED PEOPLE WHO HAVE HAD ACUTE CEREBROVASCULAR ACCIDENTS

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Abstract. A study of quality of life of elderly people who have had acute cerebrovascular accidents was made using SF-36 questionnaire. There were interviewed 96 people – residents of Lviv Geriatric boarding house (29 patients who have had acute cerebrovascular accident in different period of time (a main group) and 67 individuals who had other diseases and did not have acute cerebrovascular accident in history (a control group). There was established a decreased index of quality of life for women compared to men in such general indices as the physical health, mental health and general health status (in both groups). The physical component of health was estimated higher and mental - lower in the main group of both men and women. The general health status of men of the main and control groups and women of the main and control groups were almost identical. The indices established show that the quality of life of women and men is middling.

Keywords: acute cerebrovascular accidents, quality of life, elderly people

Introduction

In recent decades there is observed a steady tendency to population aging. It is predicted that by 2030, the proportion of people over 60 years will be 23% in the world [22]. The increase in proportion of elderly people is accompanied by increase and restructure of morbidity. Diseases, the development of which is associated with aging, include vascular and degenerative brain diseases [20]. Acute cerebrovascular accidents and their most dangerous form – brain stroke – is an important medical and social problem. Our previous studies confirmed that they most often developed in older age group of population (50 and older) [5-8]. One of the important effects of acute cerebrovascular accidents is disability as stroke is the leading cause of disability among elderly people. On an average 60% of patients after stroke have persistent neurological disorders that impede their daily life [17]. In this context it is important to study the quality of life of the patients who have had acute cerebrovascular ac-

cidents, in particular, stroke as the results of such investigations will enable to choose new effective methods of treatment, rehabilitation and secondary prevention. Therefore, the investigation of quality of life by studying subjective feelings of patients after stroke deserves considerable attention of scientists [1-3,10,12,15,16,19-21].

Today the structure of society in Ukraine is characterized by an accumulation of single elderly and old people living at home or in institutions of social services – geriatric boarding houses and who was also affected by acute cerebrovascular accidents. Therefore, the study of the quality of life of this category of people is so important.

It is believed that the concept the quality of life unites indices of at least four different but correlated areas: physical (physical health – combination of manifestations of health and/or disease); functional (functionality – the human capacity to carry out activities, due to his needs, ambitions and social role); emotional (emotional state of bipolar orientation and, accordingly,

the opposite results in the form of well-being or distress); social status (level of social and family activities, communication, etc.) [13]. One of the most popular and applied during the medical, socio-economic research is a general questionnaire SF-36 (The Short Form-36), which was developed at the Center for the study of health outcomes (USA) by John E. Ware and Cathy Donald Sherbourne in 1992 [9].

The purpose of work

Determination of the quality of life of elderly people who have had acute cerebrovascular accidents.

Materials and methods

The methods used included information search, analysis and synthesis, evaluation of the quality of life using the SF-36 questionnaire. The object of study is sources of medical information, information from the questionnaire SF-36. The investigation was conducted at Lviv geriatric boarding house.

The SF-36 questionnaire consists of 36 items grouped in eight scales that form two indices: the physical component of health (physical functioning, role-functioning conditioned by the physical condition, the intensity of pain and general state of health) and mental component of health (social functioning, vitality, role functioning, conditioned by the emotional state and mental health) [4,9,18]. The indices of each scale range between 0 and 100 points (standard units, %), where 100 represents full health. The results are presented in the form of points by 8 scales drawn up so that a higher score indicates a higher level of QOL. Three types of evaluations are calculated for all of these scales – primary (which was mentioned above) and two standardized - Z or T [11]. Standardized evaluations are normal-

ized and show the results of the survey regarding the average statistic level of some representative sample (normative data for the total US population). Interpretation of test results is based on conventional indices expressed as a percentage: 0%–20% – lower; 21%–40% – reduced; 41%–60% – average; 61%–80% increased and 81%–100% high quality of life.

The questionnaires were filled in two ways: through independent data entry by a respondent and interviews. Data processing was carried out according to the corresponding instructions [4]. Comparison of the quality of life was conducted by mean (M) value taking into account the mean error (m) and median. In calculating the values of common indices “physical health component” and “mental health component there was used Z-evaluation. Statistical processing of the data was performed using Statistica 10 Trial. There were compared qualitative (sex) and quantitative (age and quantitative assessment of QOL for each scale of the questionnaire). Normality of distribution of the data samples was evaluated using the method of Shapiro – Wilkie. It was established that the distribution of the data was different from normal, so there were used non-parametric methods of assessment. Comparison of quantitative indices was performed using the U-criterion of Mann – Whitney and quality indices – using Pearson χ^2 criterium. Differences were considered significant at $p < 0,05$ [14].

96 people – residents of Lviv geriatric boarding house in all were questioned. Among them, 29 patients have had acute cerebrovascular accidents at different period of time - they made the main group. The control group consisted of 67 people who had other diseases and had acute cerebrovascular accidents in the life history. The distribution of respondents by gender are presented in **Table 1**.

Table 1. Distribution of persons who participated in questioning, by gender

	Main group, n=29		Control group, n=67	
	males	females	males	females
The number, n	18	11	34	33
Mean age (M±SD)	63,7±6,1%	73,4±8,1%	65,8±18,1%	70,3±12,2%

There were no statistically significant difference between males and females.

In the main and control groups
($\chi^2 = 1,045172$; $p = 0,30662$).

When conducting the investigation there were no conflicts of interest found.

Results

The results of the comparative analysis of the quality of life of residents of the investigated geriatric boarding house that formed the main and control groups are presented in **Table 2**.

Table 2. Comparative analysis of the quality of life of males and females of the investigated geriatric boarding house

Statistic indices	gender	Main group (n=29)			Control group (n=67)			P
		M±m ¹ , y.o. ⁴	Median ² , y.o.	Z ³	M±m, y.o.	Median, y.o.	Z	
1. Physical Functioning (PF)	m	54,4±6,0	60,0	-1,3	56,9±4,0	65,0	-1,2	0,31
	f	50,9±6,0	50,0	-1,5	44,9±5,0	45,0	-1,7	0,56
2. Role-Physical (RP)	m	50,0±10,1	50,0	-0,9	48,5±6,5	50,0	-1,0	0,89
	f	31,8±11,2	25,0	-1,5	34,1±6,6	25,0	-1,4	0,96
3. Bodily Pain (BP)	m	67,9±5,8	74,0	-0,3	64,1±3,5	64,0	-0,5	0,48
	f	44,5±5,3	50,0	-1,3	47,4±3,3	50,0	-1,2	0,60
4. General Health (GH)	m	46,9±2,9	45,0	-1,3	50,7±3,9	50,0	-1,1	0,31
	f	41,8±8,9	60,0	-1,5	41,7±4,0	50,0	-1,5	0,42
5. Vitality (VT)	m	47,5±3,5	47,5	-0,6	51,0±3,8	52,5	-0,5	0,43
	f	40,9±6,2	35,0	-1,0	35,6 ±3,9	35,0	-1,1	0,42
6. Social Functioning (SF)	m	58,3±6,1	62,5	-1,1	61,8±3,8	62,5	-1,0	0,77
	f	50,0±2,9	50,0	-1,5	56,8±1,9	62,5	-1,2	0,10
7. Role-Emotional (RE)	m	57,4±10,7	66,7	-0,7	57,9±6,9	66,7	-0,7	0,90
	f	33,3±11,9	33,3	-1,5	36,4±7,4	50,0	-1,4	0,98
8. Mental Health (MH)	m	48,9±3,4	52,0	-1,4	51,3±3,1	52,0	-1,4	0,72
	f	41,8±5,2	48,0	-1,8	44,1±3,8	52,0	-1,7	0,57
Generalized indices								
1. Physical Health (PH)	m	48,0±1,6	47,9	-0,2	47,3±0,9	47,7	-0,3	0,56
	f	46,2±1,7	46,6	-0,5	44,6±1,2	45,5	-0,5	0,47
2. Mental Health (MH)	m	40,0±1,7	40,3	-1,0	41,4±1,6	40,7	-0,9	0,65
	f	35,2±2,3	46,6	-1,5	37,1±1,9	37,4	-1,3	0,69
General status	m	44,0±1,3	45,4	-0,6	44,3±1,0	44,5	-0,6	0,83
	f	40,7±1,8	42,3	-0,9	40,8±1,2	41,0	-0,9	0,48

¹M – the mean value of the index (reference units), m – the mean error

²Median – the value of the signs, which is ranked in the middle row sample

³Z – evaluation

⁴ – reference units (points)

Evaluation by the scale Physical Functioning (PF) reflects limitation of the performance of physical activity by the physical condition. Since there is a direct association, then, as it is seen from the Table 2, men in the control group can perform more physical activity (index $56,9 \pm 4,0$ RU) than those in the main (index $54,4 \pm 6,0$ ru). Among women, there is the opposite phenomenon: women of the main group rated their physical functioning slightly higher than those of the control (index $50,9 \pm 6,0$ ru vs $44,9 \pm 5,0$ ru). The men of the main group have smaller limitations in daily activities that are related to their physical state (index Role-Physical (RP) in them is $50,0 \pm 10,1$ ru vs the control group, for whom this figure is lower – $48,5 \pm 6,5$ ru). The women of the main group compared with those of the control, have greater limitations in daily activities that are related to their physical condition (indices $31,8 \pm 11,2$ and $34,1 \pm 6,6$ ru respectively). In assessing pain intensity low rates of the Bodily Pain scale indicate that pain significantly limits the activity of the respondent. As it can be seen from the Table 2, this index for the men of the main group is $67,9 \pm 5,8$ ru, and its $64,1 \pm 3,5$ ru in the controls (i.e. lower in the control group). The index of pain for women in the control group is lower than those in the main ($44,5 \pm 5,3$ and $47,4 \pm 3,3$ ru respectively). This is evidence that subjective pain in women of the main group (as in general for women and men) significantly limits their daily activities. Indices of General Health for the control group of men is higher than in the main one ($50,7 \pm 3,9$ and $46,9 \pm 2,9$ ru, respectively), whereas for women of the main and control groups they are almost the same ($41,8 \pm 8,9$ and $41,7 \pm 4,0$ ru, respectively). Vitality characterizes the respondents' evaluation of their vitality, and the index has a direct association - the higher it is, the higher the respondent assesses his vitality. In the tested case vitality of the men of the main

group is characterized by the index $47,5 \pm 3,5$ ru, and controls have $51,0 \pm 3,8$ ru, i.e. vitality estimation of the former is lower than that of the latter. However, women of the main group estimate their vitality higher than the controls (index of VT scale for the main group is $40,9 \pm 6,2$ and $35,6 \pm 3,9$ ru for the controls). Characteristics of the Social Functioning provides the respondents' assessment of their social relationships with friends, family, associates and others. The higher index on this scale, the higher residents of the boarding house evaluate the level of their social ties. According to our research the level of social relationships both of men and women in the control group rated higher versus main groups. Assessment of Role-Emotional showed that the emotional status of men in the main and control groups almost equally affects their daily activities (index on RE scale for men of the main group is $57,4 \pm 10,7$ and control – $57,9 \pm 6,9$ ru). The emotional state of women in the control group less affects their daily activities than in the main group of women (index on the RE scale is $36,4 \pm 7,4$ ru for former, and – $33,3 \pm 11,9$ ru for the latter). Indices characterizing Mental Health of the residents of the Geriatric boarding house (MH scale) show that both men and women in the control group are more frequently in a good mood, they feel calmer and happier than those who have had CVA.

Indices of physical health of both men and women of the main group are slightly higher than those of the controls (for men in the main group the index on the PH scale is $48,0 \pm 1,6$ ru, and for women in the main group it is $46,2 \pm 1,7$ ru). In the control group indices on the PH scale for men were $47,3 \pm 0,9$ ru, and for women – $44,6 \pm 1,2$ ru. In contrast to physical health, mental health both of men and women of the main group is characterized by lower ($40,0 \pm 1,7$ and $35,2 \pm 2,3$ ru, respectively) indices on the MN scale compared with the controls ($41,4 \pm 1,6$ and $37,1 \pm 1,9$ ru, respectively). The general health status of the men in the main and control groups (indices $44,0 \pm 1,3$ and $44,3 \pm 1,0$ ru, respectively) and women of the main and control groups are almost identical (index $40,7 \pm 1,8$ and $40,8 \pm 1,2$ ru respectively). However, as to gender, the

general health status of men in both groups is somewhat higher than in the corresponding women's groups. The indices defined show that the residents of geriatric boarding house assess their quality of life as middling.

There were no found statistically significant differences between the estimated figures on all scales (p value for each of the scales are given in Table 2).

Conclusions

There was made a quantitative measuring of QOL of elder people who have had CVA. There was established its decline for women compared to men in such general indices as physical health, mental health components and the general health status (in both groups). This physical component of health was estimated higher and mental – lower in the main group for both men and women. The general men's health status in the main and control groups and women in the main and control group was almost identical. However, certain indices suggest that QOL of men and women is middling.

The results can serve as a basis for optimizing management solutions for improving medical and social care and pharmaceutical help to elderly people who have had CVA.

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