

The Impact of Ischemic Cerebral Stroke on the Quality of Life of Patients Based on Clinical, Social, and Psychoemotional Factors

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Background: Cerebral stroke is the major cause of disability in the modern world and, given its consequences, poses serious medical and social problems. The purpose of the study was to evaluate the quality of life of patients who suffered from an ischemic cerebral stroke with respect to various areas of life, including, in particular, clinical and psychoemotional factors. The study hypothesis states that the poststroke quality of life is reduced in the general context as well as in the context of specific areas of life. It was also considered of key importance to assess how the quality of life of patients is affected by depression. **Materials and Methods:** The study included 44 patients with the first ischemic cerebral stroke of moderate and mild severity according to the National Institutes of Health Stroke Scale, currently treated in the Neurology Department of the Międzyleski Specialist Hospital in Warsaw. The quality of life was measured based on the standardized Ferrans and Powers Quality of Life Index questionnaire and the Beck Depression Inventory. **Results:** Based on the results, it was demonstrated that the quality of life of the patients was significantly reduced on the psychological and spiritual well-being subscale and that depression is a more frequent occurrence among patients with cerebral stroke of moderate severity. **Conclusions:** Continued and complex posthospitalization care, including treatment for depression and increased social support, may to a significant extent reduce the negative impact of the disease on the perceived quality of life. **Key Words:** Ischemic cerebral stroke—quality of life—clinical factors—psychoemotional factors.

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Introduction

As defined by the World Health Organization, cerebral stroke is a clinical condition characterized by a sudden occurrence of focal symptoms or general brain impairment lasting for more than 24 hours that has no causes other than a vascular event.¹ Cerebral stroke is one of the greatest medical problems that is also of social significance in European countries and in the United States. It is one of the most frequent causes of disability and death in the adult population. Estimates show that 15 million people suffer from stroke every year, and one third of those are fatal cases. The vast majority of strokes (as many as 85%) are caused by embolism- or thrombus-induced ischemia. The other cases are hemorrhagic strokes triggered by a damaged blood vessel wall.² Among the stroke survivors, as many as 44-75% are dependent on

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Study was approved by the ethics committee. In addition, patients expressed an informed and voluntary consent to participate in the study.

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their caregivers and family. Other patients never make a full recovery, while 20% of patients require help from various social institutions. It should be noted that cerebral stroke is the second most frequent cause of stupor and epilepsy among elderly patients. The disease symptoms, such as limited physical mobility, contribute to the reduction of social contacts, withdrawal from family and social life, lower self-esteem, depression, and a generally deteriorated quality of life.³⁻⁶ The identification and classification of various, not only clinical, conditions of functioning of poststroke patients is one of the key requirements for proper determination of rehabilitation and long-term care. In the available literature, there are several studies concerning the poststroke quality of life and their number is on the increase. Such studies are conducted infrequently in Poland and there are few works based on the use of standardized tools designed for the assessment of the quality of life of patients.⁷

Materials and Methods

The study included 44 patients (21 females and 23 males) after the first ischemic cerebral stroke, currently treated in the Neurology Department of the Międzyzleski Specialist Hospital in Warsaw (data collection period: from January to December 2015). The age of the female participants ranged from 37 and 86 years, while that of the male participants ranged from 44 and 84 years. The average age for both gender groups was 64 years. The inclusion criteria for the study were patients after their first ischemic cerebral stroke (more than 1 month from the date of the study) with mental condition enabling the patient to communicate with the medical personnel and mild to moderate stroke severity according to the National Institutes of Health Stroke Scale (NIHSS), who signed a free and informed consent to participate in the study. The quality of life and satisfaction with the emotional support from other people were assessed based on the Polish adaptation of the Ferrans and Powers Quality of Life Index (QLI). The questionnaire consisted of 2 parts. The first part concerned the level of satisfaction with various areas of life, while the other part was related to the evaluation of the importance of these areas according to 4 subscales: health and functioning, socioeconomic status, psychological and spiritual well-being, and satisfaction with family life. The emotional status of the patients included in the study was verified based on the Beck Depression Inventory (BDI), which consisted of 21 statements scored on a scale of 0-3.

Statistical Methods

The statistical analysis was performed based on the Spearman nonparametric test of rank correlation using the SAS software (SAS Institute Inc., Poland) suite. Given the small sample size, no tests for the strength of association based on the Pearson correlation coefficient were

performed. The Spearman rank correlation coefficient takes values of -1 to 1 (when the ranks are independent, the coefficient is equal to 0; when there is full concordance between the ranks, the coefficient is equal to 1; and when there is no concordance between the ranks, the coefficient is equal to -1).

Results

Social and Demographic Factors

The study included 21 females and 23 males, that is, 48% and 52%, respectively. The greatest percentage of patients in the study group belonged to the age group of 50-59 years. The second largest subgroup included patients at the age of 70-79 years. Patients under the age of 50 years accounted for 14% of the study group, whereas patients over the age of 80 years accounted for 7% of the study group. The vast majority or 68% of the study participants were urban residents, whereas 32% of the patients were rural residents. The majority of the study participants had secondary education; the second largest group included patients with elementary education, whereas the smallest study subgroup was made up of patients with university degrees. The majority of the patients in the study group were married, as many as 61%; widows and widowers accounted for 23% of the patients, whereas divorced and single patients made up 7% and 9% of the study population, respectively. The largest group was composed of pensioners, and then blue-collar workers, white-collar workers, and the unemployed (Table 1).

Clinical Factors

Twenty-three patients suffered a mild cerebral stroke and 21 patients suffered from a moderate cerebral stroke according to the NIHSS. Severe depression was observed in 3 cases and moderate depression was found in 17 patients, whereas the results obtained for the other 24 patients indicated no depression symptoms (Table 2).

Table 3 shows the descriptive statistics of the study parameters: number of patients, mean, standard deviation, median, and the minimum and maximum scores within the sample. The subsequent rows contain the parameters from the patient data file in the first column and the coefficients used in the analysis in the subsequent columns.

Table 4 shows the correlation coefficients between the study parameters. The first item in the box is the Spearman correlation coefficient, whereas the second item is the *P* value showing the statistical significance (if *P* < .05, the Spearman coefficient is statistically significant).

In most cases, the *P* value is much greater than .05, which means that the coefficient of correlation is statistically insignificant. Therefore, no conclusions about the

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