XII. Streszczenie w języku angielskim

"Man lives in the shadow of death".

Krzysztof Kolberger

Stroke is a life threatening condition. In the first minutes, oxygen and glucose deficiency in the brain leads to a decrease ATP synthesis and synaptic impairment. Yet, reducing the flow for more than 5-10 minutes causes irreversible changes, contributing to apotheosis or cerebral cell necrosis. WHO estimates indicate that stroke affects 15 million people around the world every year and about 1/3 of them die. Rapid restoration of normal circulation in the area of relative ischemia prevents the occurrence of irreversible changes and limits the area of permanent ischemic damage.

Due to the sensitivity of the disease area, which is the human brain, present vascular incydent OUN in most cases, it results in motor and neurological deficits. Brain stroke is one of the main causes of severe and chronic disability among adult people. Dysfunctionality reduces the quality of life of the patient, a sense of life satisfaction, and long-term condition can lead to mental disorders, including depression.

Thus, the effectiveness of stroke treatment is determined first, by the time to give specialized medical assistance and then early hospital procedure. Planning the improvement process of patients with neurological deficits requires careful examination of the ill and determining the starting point that becomes reference for the obtained therapy effects. Their proper assessment depends on the type and sensitivity of the tools used. The use of clinimetrics in the early stage of neurological rehabilitation allows for real assessment of the effectiveness of carried out operations and achievement of therapeutic success. Taking into account the quality of life in the research is an expression of a subjective approach to the patient, which apart from objective health exponents, attributes a significant role to subjective judgments and feelings of the patient.

Therefore, the main purpose of the thesis was to assess the quality of life, satisfaction from life and assessment of motor functions of patients after stroke in the early stages of neurological rehabilitation. Specific objectives have been set for the main objective, which have been covered by the following arrangements:

- how patients assess the quality of their lives in terms of physical functioning, mental, social and in the environment in the light of the comparative group

- how patients assess their mental health and what the mental condition of the examined group is
- to what extent patients assess their physical abilities and ability to independent taking fundamental everyday activities
- whether the degree of acceptance of the disease in hospitalized patients affects their ability to cope with a difficult situation and current self-assessment of health status.

The study population consisted of 148 post-stroke patients hospitalized in the Neurology Department with the Stroke Unit at the Regional Hospital in Lomza. The condition for participation in the research was the lack of significant diseases among the musculoskeletal system, significantly affecting the patient's functional conditio, mental performance and verbal communication allowing for the participation in the study without the need for other people's help, conscious and voluntary consent of respondents to participate in research by completing an anonymous survey questionnaire. In addition to the proprietary survey questionnaire, standardized tools were used: WHOQOL-BREF Quality of Life Assessment Questionnaire, Diener Life Scale (SWLS), Disease Acceptance Scale (AIS), Scandinavian Brain Stroke Scale (SSS), Barthel Index (BI), Beck Depression Self Assessment Questionnaire (BDI). The research was conducted in three stages: the first stage - 5 days after the vascular incident OUN, the second stage - before the patient is discharged from the Neurological Department, the third stage - during the stay of patients in the Rehabilitation Department with a neurological rehabilitation sub-department.

The statistical analysis has been performed by using STATISTICA 7.0 software produced by StatSoft Poland company. When analyzing data from questionnaire studies, in order to describe the collected research material as well as to determine the reliability of the relationships observed in the research sample and the possibility of generalizing them for the entire population selected statistical tools were used during the analysis. The description of the collected data consisted of grouping them - for nominal features (with distinction between the number and frequency of occurrence of individual variants of the examined features) or determination of descriptive statistics – for measurable features. The results are presented in the form of quota tables containing a numerical and percentage distribution of selected

demographic characteristics in each group of the patients, selected statements - in graphic form. To assess whether the relationships observed in the sample are the result of a more general regularity prevailing in the overall population, or an incidental result. Kruskal-Wallis nonparametric test was used due to the lack of compliance of the variable distribution with the normal distribution. The differences were considered statistically significant when $p<0,05$.

In the group of 148 patients enrolled in the study there were 62 women (41,89%) and 86 men (58,11%). The age of the participants varied. People aged 51-60 (30,41%) and 61-70 (27,03%) were most represented, in total beyond 50 years of age, there were 75% of patients. Among the patients after the stroke were both residents of the village (52,03%) and cities (47,97%). A significant part of the group had vocational education (56,08%) while the remaining secondary (33,11%) or higher (10,81%). People in marriages dominated
(68,24%), most often living with a spouse (34,46%) or a spouse and children (33,78%). The source of income was mainly professional work (50,68%). Respondents most often assessed their social and living conditions (77,03%). Assessment of neurological impairment in patients with acute stroke and progress of the rehabilitation was carried out using the Scandinavian Brain Stroke Scale (SSS). It was obtained that within an interval of 5 days after the disease incident, 11,49% of cases had a severe stroke, 64,86% had a medium stroke, and 23,65% had a mild stroke. It was observed that with each successive stage of the study, there was a decrease
in cases with medium stroke (from 64,86% to 15,54%), and an increase in the group of patients with features of light stroke (from 23,65% to 75,68%), indicating the effectiveness of the
rehabilitation provided. In the area of physical dysfunctions, the Barthel Index (BI) was used, which allows analysis of the patient's level of independence based on ten basic activities of daily living, such as personal hygiene, eating, using the toilet, changing position and movement, dressing and sphincter control. With each stage of treatment, the subjects' physical fitness improved, as evidenced by a decrease in the number of cases with moderate disability (from 64,19% to 13,51%), and an increase in the percentage of patients with mild disability (from 22,97% to 74,33%).

The holistic approach to the patient used in modern medicine goes beyond the area of the patient's physical condition. The effectiveness of treatment is also assessed in the psychological sphere. In many disease entities, acceptance of the disease has been shown to be a significant element in the healing process. Our own study also addressed this issue using

the AIS standardized scale. It was observed that as treatment progressed, the level of disease acceptance increased. Undoubtedly, this corresponded with returning fitness and gained independence. The proportion of patients with an average level of disease acceptance was comparable at all stages of the study (47,98%, 53,38%, 52,70%, respectively), but the proportion of patients with a high level of disease acceptance doubled (from 13,51% to 33,11%), and there was a significant decrease in those with a low AIS score (from 38,51% to 14,19%). The phenomenon of depressive episodes in people after a CNS vascular incident was also investigated. In this regard, the standardized Beck Depression Scale was used. It was obtained that in stage I, 83,78% of the subjects had a depressive episode of moderate severity, and 9,46% had a depressive episode of severe severity. The problem of depression did not affect only 6,76% of patients, but this percentage increased with the next stage of therapy: Stage II 7,4% and Stage III 29,05%. Stage III saw a decrease in patients with a depressive episode of moderate severity to 53,38%. In contrast, there was an increase in cases with an episode of significant severity of 17,57% according to the Beck scale. It was assessed that this situation may have resulted from the prolonged process of improvement, the failure to meet the original expectations of a quick recovery and full recovery, as well as difficulties in fulfilling the social roles held due to the need for hospitalization.

The study was summarized by analyzing the results obtained with the WHOQOL-BREF questionnaire for assessing the quality of life of post-stroke patients. The lowest score was obtained within 5 days of the CNS vascular incident, and an increase in satisfaction with quality of life was observed as treatment progressed. At each stage of the study, patients rated quality of life worst in the psychological domain, followed by the physical and social domains, and highest in the environmental domain. The decline in quality of life in the first three areas is due to the direct effects of the disease such as associated stress and anxiety, loss of physical and mental fitness, and temporary loss of previous social status. In the area of the environment, the changes that occurred were the least noticeable, as assessed by the patients themselves, relations with family, loved ones did not change, and on average every fourth person perceived their improvement. Self-assessment of health also improved with each stage of treatment.

Based on the study, the following conclusions were drawn:

1. The implemented process of improvement of the patient after the CNS vascular incident contributed to the improvement of the patient's motor independence and levelled the the existing symptoms of disability.
2. The resulting neurological deficit following the stroke was reduced with each stage of the rehabilitation procedures implemented in medical therapy.
3. Up to 5 days after the CNS vascular incident, patients were observed to have difficulties in accepting the health situation. This condition was changing in the process of treatment, and with the improvement in health status achieved, the level of acceptance of the disease.
4. In terms of the life satisfaction studied, low and average results were obtained, which indicates the long-term effects on the patient's mental health in the aftermath of the stroke. An upward trend in the level of satisfaction with life was observed at subsequent stages of post-stroke therapy.
5. People after a CNS vascular incident were characterized by symptoms of depression of moderate and severe level. It was observed that with each stage of rehabilitation procedures implemented, the group of patients without a depressive episode.
6. With each stage of treatment, the group of post-stroke patients increased satisfied with their current state of health.
7. The quality of life of patients in the early stage of neurological rehabilitation was lowest in the mental and physical spheres. The effects of therapy contributed to an improvement in quality of life in all spheres.
8. It was found that the lower the physical impairment after a stroke episode, the higher the patient's quality of life score.
9. It was found that the lower the neurological impairment after a stroke episode, the higher the patient's quality of life score.
10. The significance of differences in mean values of quality of life assessment at the stage of rehabilitation in hospital or at home, where it was found that the higher the level of acceptance of the disease, the higher the patient's quality of life assessment.
11. There was shown the significance of differences in the mean values of quality of life assessment at the stage of hospitalization in the Neurology Department with Post - stroke unit, where it was found that the higher the level of satisfaction with life, the higher the patient's quality of life assessment.

12. There were significant differences in the mean values of quality of life assessment at the treatment stage up to 5 days after a CNS vascular incident, where it was found that the higher the severity of depression the lower the patient's quality of life assessment.
13. Neurological rehabilitation of the patient after stroke improves his quality of life in all areas of functioning.

With regard to the conclusions of the study the following postulates were formulated:

1. It is necessary to professionally assist the physiotherapist in adapting the patient to new conditions directly caused by functional deficiency, recommending modifications when necessary, teaching strategies and interventions to patients and their caregivers, promoting functional independence and increasing their quality of life.

2. It is advisable to carry out extensive activities in the field of primary and secondary prevention of stroke with reference to the latest modifications of the existing recommendations, taking into account the increasingly important role of non-pharmacological activities, including appropriately targeted and regular activity for the patient, their families or direct caregivers.

3. It is paramount to carry out health education among patients, but also their families or direct caregivers in dealing with bio-psycho-social problems resulting from the severity of the stroke and movement disorders.

4. There is a need to participate in various forms of in-service training, whose main purpose will be to prepare the physiotherapist to work and educate patients with neurological deficits of varying degrees of severity depending on the extent of CNS damage as well as their families.

5. The optimal method of rehabilitation with a stroke patient is the management based on standards, procedures and the code of professional ethics with respect for the autonomy, dignity and rights of the patient.

6. It is advisable to establish a coordinated and multidisciplinary therapeutic team for the care of stroke patients, in which the physiotherapist, as a motor rehabilitation professional in the process of improvement, would be an important link for the exchange of information, patient opinions and social support , at any stage of the disease.

7. There is a rationale for the creation of multispecialty rehabilitation teams community specialized in stroke care, which should take over further physiotherapeutic

   management of patients discharged from Stroke Units and Stroke Rehabilitation Units, who need this.

The postulates submitted should be an important and indispensable part of the treatment of post-stroke patients, and the latest improvement algorithms presented by physiotherapists in the early stages of neurological rehabilitation should be horizontal undertakings, addressing the broad needs of patients affected by this condition. Such a procedure will make it possible to make a proper assessment of the patient's bio-psycho-social problems and implement effective measures to support the patient's family as well at each stage of the disease process.