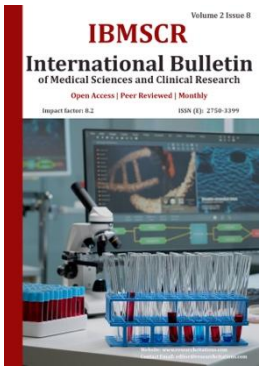

THE EFFECTIVENESS OF REHABILITATION IN IMPROVING THE QUALITY OF LIFE IN PATIENTS WITH ISCHEMIC STROKE

Islomova Davrona
Master's student at the Department of Rehabilitation, Traditional Medicine, and Physical Education Tashkent Medical Academy
Tashkent, Uzbekistan
ORCID ID:0009-0000-7047-9748
Maxamatjanova Nodira
Assistant of the Department of Neurology and Medical Psychology, PhD
Tashkent Medical Academy Tashkent, Uzbekistan
maxamatjanova@bk.ru ORCID ID:0000-0002-0694-1157
Adibakhon Usmankhodjaeva
Doctor of Medical Sciences (DSc), Associate Professor, Head of the Department of Rehabilitation, Traditional Medicine, and Physical Education Tashkent Medical Academy
Tashkent, Uzbekistan
ORCID ID: 0000-0001-6124-6803
https://doi.org/10.5281/zenodo.17785903

Abstract This article explores the importance of rehabilitation in patients recovering from ischemic stroke and its contribution to enhancing their quality of life. It evaluates the effectiveness of different rehabilitation approaches, such as physiotherapy and psychological support. The findings highlight the beneficial effects of rehabilitation on functional recovery and the restoration of daily activities.

Keywords Ischemic stroke, rehabilitation, quality of life, physiotherapy, psychological therapy, rehabilitation outcomes, post-stroke rehabilitation.

Introduction

Ischemic stroke is a severe health condition caused by impaired cerebral circulation, ranking as the third leading cause of death worldwide [2]. This condition is characterized by the sudden onset of focal neurological symptoms, including motor dysfunction, speech impairment, sensory disturbances, coordination issues, and visual deficits, which develop within minutes to hours. Ischemic stroke occurs due to thrombosis in cerebral blood vessels, leading to brain tissue softening, also known as cerebral infarction. Initial symptoms such as headaches and dizziness may appear, followed by limb numbness, paresis or paralysis, sensory loss, and speech impairment, while consciousness remains intact. Patients typically exhibit pale skin, constricted pupils, weak pulse, and normal body temperature. Recovery of lost functions may take several months [5].

Globally, the incidence of stroke is estimated to be between 460 and 560 cases per 100,000 people annually, with the detection rate of new cases ranging from 100,000 to 200,000 per year. In Uzbekistan, around 40,000 stroke cases are recorded annually, predominantly affecting rural populations [7].

The increasing global prevalence of stroke and its high mortality rate highlight the serious social and economic consequences of this condition. The relevance of this topic lies in the fact that post-stroke rehabilitation is a long-term and comprehensive process that plays a crucial

role in enhancing patients' quality of life, restoring their functional abilities, and improving their overall well-being.

Research materials and methods

This study was conducted at the Neurology Department of the Multidisciplinary Clinic of Tashkent Medical Academy, involving 70 patients diagnosed with ischemic stroke. The patients were categorized based on gender and clinical symptoms as follows:

- Gender distribution: Among the 70 patients, 40 (57.1%) were female, and 30 (42.9%) were male.

- Clinical symptoms: The primary symptoms observed in the patients included motor dysfunction (85%), speech impairments such as aphasia (72%), loss of sensation in the limbs (68%), and coordination difficulties (55%).

The patients, aged 45–75 years, were divided into two groups based on their rehabilitation approach:

Experimental group (35 patients): These patients participated in an intensive physical rehabilitation program.

Control group (35 patients): These patients received only standard medical treatment without additional rehabilitation therapy.

Methods:

1. Patient assessment:

Neurological status was evaluated using the NIHSS (National Institutes of Health Stroke Scale).

Motor function and movement skills were assessed using the Fugl

Meyer Assessment Scale.

Quality of life was measured using the SF-36 questionnaire, an internationally recognized health survey.

2. Rehabilitation program for the experimental group:

Weeks 1–4:

Daily 30-minute physiotherapy sessions.

Massage therapy three times per week.

Motor recovery exercises for upper and lower limbs, performed twice daily.

Hydrotherapy sessions twice a week to improve circulation and muscle function.

Weeks 5–8:

Phytotherapy, using herbal-based calming treatments to aid neurological recovery.

Electrotherapy sessions (twice weekly) for neuromuscular stimulation.

Functional training to restore daily activities, such as standing, walking, and performing routine tasks.

Cognitive therapy sessions focusing on speech and memory rehabilitation for patients with aphasia.

Results

The rehabilitation program demonstrated significant improvements in the experimental group compared to the control group:

Neurological symptoms (NIHSS scale): Before treatment, the average score was 12.4 ± 2.1, which significantly decreased to 5.1 ± 1.6 after the program.

Motor function (Fugl-Meyer Assessment Scale): The initial average score was 46.2 ± 5.3, improving to 71.5 ± 6.0 post-rehabilitation.

Quality of life (SF-36): The baseline average score was 43.1 ± 6.4, which increased to 69.2 ± 7.1 after rehabilitation.

In the control group, where only standard medical treatment was provided, the improvements were comparatively less significant. Neurological symptoms (NIHSS scale): Decreased from 12.6 ± 2.0 to 10.5 ± 1.8, Motor function (Fugl-Meyer Assessment Scale): Increased from 45.9 ± 5.2 to 51.4 ± 5.5, Quality of life (SF-36): Improved from 42.8 ± 6.3 to 49.1 ± 6.7.

Discussion

The findings of this study align with several previous research results. For instance, a study conducted by Xuan et al. (2022) highlighted that early rehabilitation significantly contributed to the recovery of lower limb function [1]. Similarly, our research also demonstrated that structured physical rehabilitation programs, particularly when initiated early, played a crucial role in enhancing motor functions in stroke patients [5]. Additionally, the use of mirror therapy showed positive effects on neuroplasticity and motor recovery, as supported by previous studies [8] [9].

Existing research suggests that early rehabilitation, the integration of new technologies, and diverse therapeutic approaches lead to effective and sustained improvements in post-stroke recovery. Among the most impactful rehabilitation methods contributing to patients' overall well-being and functional recovery are physiotherapy, massage therapy, and electrotherapy. These interventions have shown a substantial positive influence on patient outcomes, reinforcing the importance of a comprehensive rehabilitation strategy for ischemic stroke survivors.

Conclusion

The findings of this study indicate that physical rehabilitation programs play a crucial role in restoring motor functions and improving the quality of life in patients recovering from ischemic stroke. Early rehabilitation and the integration of advanced therapeutic approaches, including mirror therapy, electrotherapy, and other supportive techniques, have contributed to significant improvements in patient outcomes. The comprehensive rehabilitation strategy implemented in this study enhanced functional recovery metrics, emphasizing the necessity of expanding the use of these rehabilitation methods. These results serve as important scientific evidence supporting the effectiveness of such approaches in post-stroke rehabilitation.

References:

1.Xuan, J., et al. (2022). Early rehabilitation after stroke and its effect on functional recovery. Journal of Stroke Rehabilitation, 29(4), 43-50. https://pubmed.ncbi.nlm.nih.gov/29116473/ [1].

2. Kun.uz. (2018). "Stroke as one of the most common causes of death: ranked third among diseases." http://kun.uz/news/2018/10/09/insult-eng-kup-tarkalgan-ulim-sabablari-orasida-ucinchi-urinda-turuvci-kasallik [2].

3. Maxamatjanova N. Principles of medical and psychological care of patients with the acquired immune deficiency syndrome //Journal of the Neurological Sciences. –2019. –T. 405. –C. 128.

4. Wikipedia. Stroke. https://uz.m.wikipedia.org/wiki/Insult [4].
5. Egger, A., Fischer, S., & Nowak, D. A. (2022). Mirror therapy for post-stroke hemiparesis: A systematic review. Archives of Physical Medicine and Rehabilitation, 103(3), 586-596. https://pubmed.ncbi.nlm.nih.gov/35311718/ [5].
6.Maxamatjanova N. Evaluation of the effectiveness of psychopharmacotherapy and psychotherapy in the complex treatment of systemic lupus erythematosus //Journal of the Neurological Sciences. –2019. –T. 405. –C. 125.
7. Wang, F., Zhang, S., Zhou, F., Zhao, M., & Zhao, H. (2022). Early physical rehabilitation therapy between 24 and 48 hours following acute ischemic stroke onset: A randomized controlled trial. Disability and Rehabilitation, 44(15), 3967-3972. https://doi.org/10.1080/09638288.2021.1897168 [7].
8. Kim, J., et al. (2022). The impact of early rehabilitation on motor function recovery after ischemic stroke. Journal of Stroke and Cerebrovascular Diseases, 31(2), 105473. https://pubmed.ncbi.nlm.nih.gov/33736542/ [8].
9. Jang, S., et al. (2021). Constraint-Induced Movement Therapy for stroke patients: A systematic review and meta-analysis. Neurorehabilitation and Neural Repair, 35(3), 215-224. https://pubmed.ncbi.nlm.nih.gov/25772900/ [9].
10. Shodmonov, R., & Yusupov, M. (2020). Effectiveness of rehabilitation and treatment methods after ischemic stroke. Medicine and Rehabilitation, 4(1), 23-28. [10].