



INNOVATIVE THERAPY OF CEREBROVASCULAR DISEASES

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Relevance of the topic:

Nowadays, the incidence, mortality, and disability rates associated with cerebrovascular diseases (CVDs) continue to rise globally, making this issue increasingly urgent. According to literature data, the incidence of CVDs is approximately 2.5 per 1,000 people. In Uzbekistan, post-stroke disability rates are estimated at 3.2 per 10,000 individuals. Given the broad spectrum of dysfunctions caused by CVDs — particularly cognitive impairments — it is crucial to ensure timely and effective treatment approaches. In recent years, innovative methods aimed at improving cognitive functions have emerged. One of the most promising techniques is Neurofeedback, a novel neurotherapy approach recently introduced in Uzbekistan. However, its efficacy in treating neurological conditions remains underexplored in the local context. Considering these factors, studying this method in patients with cerebrovascular diseases is highly relevant.

Objective of the study:

To evaluate the effectiveness of Neurofeedback therapy in improving cognitive dysfunction in patients with cerebrovascular diseases.

Research tasks:

1. To examine the clinical neurological characteristics of patients with cerebrovascular diseases.
2. To assess the cognitive status of these patients using standard neuropsychological scales.
3. To evaluate the impact of Neurofeedback therapy on the dynamics of cognitive impairment.

Results and discussion:

This study was based on 30 patients diagnosed with cerebrovascular diseases. The treatment was conducted at “Neuromed Service” private clinic and the Central Clinical Hospital of Uzbekistan Railways. Patients were divided into two groups:

- Group 1 (n=15) received standard pharmacological treatment.



- Group 2 (n=15) received the same treatment, supplemented with Neurofeedback therapy.

Clinical neurological assessment was performed according to the stage of the disease. Cognitive functions were evaluated using Beck's Scale, the Schulte Table, and Luria's Tests. The majority of patients reported symptoms such as dizziness, headaches, memory and concentration issues, hemifacial asymmetry, paresthesia, and motor disturbances.

Following 10 days of treatment, cognitive improvement was notably better in the Neurofeedback group. For instance, the intensity of headaches, measured by the Visual Analogue Scale (VAS), decreased from 5 to 3 in Group 1, while in Group 2, it reduced to 2. Furthermore, Group 2 demonstrated significant improvements in facial symmetry, reduction of dizziness, and decrease in paresthesia in limbs.

Conclusion:

The study suggests that the incorporation of Neurofeedback therapy into standard care for cerebrovascular disease patients can yield significant improvements in cognitive functions. Continued application of this method may contribute to long-term rehabilitation and should be considered a promising modern approach in the field of neurology in Uzbekistan.

References:

1. Markovska-Simoska, 2008
2. Hurt, Arnold, & Lofthouse, 2014
3. Escolano, Olivan, Lopez-del-Hoyo, Garcia-Campayo, & Minguéz, 2012