

Factors Of Influence During the Organization of Rehabilitation of Patients with Various Neurological Disorders

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ABSTRACT

The article considers the factors of influence during the organization of rehabilitation of patients with various neurological disorders. The author notes that the recovery process after a neurological disorder can take a long time and requires an individual approach to each patient. Properly organized rehabilitation makes it possible to improve the functional state of the patient, which in turn improves his quality of life. Rehabilitation of patients with neurological disorders can help reduce health care costs associated with prolonged hospital stays and readmissions. Accordingly, rehabilitation of patients with neurological disorders is an urgent task in medicine and requires the development of new methods and approaches to improve the effectiveness of the recovery process.

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How to cite this article: Nurakhmaeva M M, Ismailov S M, Filippov G K, Nikitina A A, Gosteva V V, Markov A A (2023) Factors Of Influence During The Organization Of Rehabilitation Of Patients With Various Neurological Disorders. Journal of Complementary Medicine Research, Vol. 14, No. 2, 2023 (pp. 203-209)

INTRODUCTION

The organization of rehabilitation of patients with various neurological disorders is an important stage in the restoration of vital functions of patients. Measures for the rehabilitation of neurological disorders should be individually selected for each patient and should take into account the type and degree of the disorder, as well as the age and physical capabilities of the patient [1].

Rehabilitation of neurological disorders should include several methods and techniques, such as physical therapy, speech therapy, occupational therapy and psychotherapy. This helps patients regain many skills that were lost due to the disorder. Rehabilitation classes should be conducted regularly and for a long time so that patients can use the most of their opportunities and achieve the best results. Classes should be conducted under the supervision of qualified specialists and with the use of special equipment [2].

KEYWORDS:

neurological disorders,
rehabilitation of patients,
influence factors,
methodological approaches.

ARTICLE HISTORY:

Received Dec 13, 2022

Accepted Jan 21, 2023

Published Feb 13, 2023

DOI:

10.5455/jcmr.2023.14.02.32

After a brain injury or stroke, the brain can rebuild itself to restore functions that have been lost. To achieve this, it is necessary to stimulate the plasticity of the brain, which can be achieved through the repetition of tasks and exercises. Each patient should have certain goals that he/she must achieve in order to get the best results. Goals should be realistic and achievable, and should take into account the physical and cognitive limitations of the patient [3].

Rehabilitation of neurological disorders can be a long and difficult process, and therefore patients need the support of their loved ones. Families and loved ones can help the patient maintain motivation and mood, as well as help him/her cope with everyday tasks.

Each patient has unique needs and limitations, and therefore the approach to his treatment should be individual and take into account all aspects of his life, including cultural, social and economic factors. This will help to determine the most effective treatment methods and improve the results of rehabilitation. Rehabilitation of neurological disorders should be evaluated on a regular basis to determine how successful the treatment is and, if necessary, make adjustments to the rehabilitation program. Various methods can be used for this, including assessment of the functionality, quality of life of the patient and his satisfaction with the treatment process [4].

Measures for the rehabilitation of neurological disorders should be designed for a long period of time, often for several years. Patients may need support and assistance throughout this period, and the rehabilitation program should be adapted according to the changing needs of the patient.

Modern technologies, such as virtual reality, robotics and neuromodulation, can help improve the results of rehabilitation of neurological disorders. These technologies can be used to stimulate the brain, improve motor functions, restore speech and much more [4]. After the rehabilitation, patients need further support in order to maintain the achieved results. This may include regular check-ups, access to long-term therapy, and specialist advice. Effective rehabilitation of neurological disorders requires a team approach in which specialists from various fields, such as neurologists, physiotherapists, speech therapists, psychologists and social workers interact. This helps to provide a comprehensive approach to treatment and maximize the capabilities of each specialist [5].

The rehabilitation program should be adapted according to the needs of each patient [6]. Each patient is unique, and his needs may vary depending on the type and degree of his neurological disorder, age, cultural characteristics and many other factors. Rehabilitation of neurological disorders should include not only the restoration of physical functions, but also helping patients overcome social obstacles and problems associated with their disease. This may include helping you find a job, learning communication skills, or connecting to social support networks. Neurological disorders can have serious psychological consequences, such as depression, anxiety, and social isolation. Rehabilitation should include psychological

support and counselling to help patients overcome these problems. Rehabilitation of neurological disorders may face negative stereotypes and prejudices in society. Patients and their families may need support and understanding from the people around them to cope with these challenges [7]. Accordingly, taking into account the specifics of the rehabilitation of patients with various neurological disorders, it is important to consider all the factors which have an influence on this process.

MATERIALS AND METHODS

In the process of writing the paper, an array of sources considering various parameters of the chosen topic was analysed. To generalize and analyse the material, the comparative method and the induction method were used.

RESULTS

Neurological disorders can occur due to various causes, including genetic abnormalities, exposure to toxic substances, infectious diseases and other factors.

Genetic abnormalities may be hereditary or arise from new mutations. For example, they include genetic defects that cause changes in the function of the nervous system, such as autosomal dominant or autosomal recessive hereditary diseases, including Huntington's disease, Alzheimer's disease, Parkinson's disease and others [8]. Toxic substances can cause neurological disorders, such as lead, mercury, or alcohol poisoning. Some medications, such as antibiotics or chemotherapy drugs, can also lead to neurological problems. Infectious diseases can also cause neurological disorders. Some of these diseases include viruses such as human immunodeficiency virus (HIV), herpes simplex virus, viral encephalitis, bacterial infections such as Lyme disease, or simply fungal infections [9].

Other factors that can lead to neurological disorders include traumatic brain injuries, haemorrhages, tumours, overload syndromes such as chronic fatigue syndrome and other pathologies.

Usually, neurological disorders cause disorders of the nervous system, which can lead to changes in motor, sensory, cognitive and emotional functions. For example, in Parkinson's disease, there is a degeneration of cells responsible for the production of dopamine, a chemical that regulates body movements and coordination. This can lead to trembling, muscle stiffness, slowness of movement and other problems. People with Alzheimer's disease have a gradual deterioration of cognitive functions, such as memory, thinking and decision-making ability. This is due to changes in the brain, including the formation of protein deposits and a decrease in the number of neurons. Some neurological disorders can also cause emotional problems, such as depression, anxiety, and irritability [10].

Treatment of neurological disorders may include

pharmacological therapy, rehabilitation measures, surgical interventions and other methods. It is important to diagnose and treat these disorders as early as possible in order to minimize their impact on a person's life.

Neurological disorders can be classified according to various criteria, including their causes, symptoms and characteristics. One of the most common methods of classification is the division of neurological disorders into two large groups:

1. Diseases of the central nervous system (CNS), which include:

- demyelinating diseases, such as multiple sclerosis, in which the myelin sheaths of nerve fibers are damaged;
- motor disorders, such as Parkinson's disease and Gant's disease, which are associated with movement and coordination disorders;
- cognitive disorders such as Alzheimer's disease, dementia and other forms of memory and thinking loss;
- epilepsy, which causes seizures and other disorders of the nervous system.

2. Diseases of the peripheral nervous system, which include:

- neuropathies that cause damage to nerves that control sensory functions, such as the sensation of pain, temperature;
- neuromas, which are neoplasms from nervous tissue;
- myasthenia gravis and other disorders associated with muscle weakness [11].

Some other ways to classify neurological disorders include:

- by type of disorders: for example, movement disorders, sensory disorders, speech disorders, cognitive disorders, etc.;
- by severity: neurological disorders can be mild, moderate or severe, and the severity may vary depending on the specific case;
- by the age of the beginning: some neurological disorders may begin in early childhood, adolescence, in adults, or in old age;
- by heredity: some neurological disorders can be inherited through genetic pathways;
- by reasons of occurrence: for example, infections, injuries, tumours, circulatory disorders, autoimmune diseases and other factors can lead to various neurological disorders [12].

Classification of neurological disorders can be useful for choosing the most effective treatment method, predicting the outcome and preventing the occurrence of consequences. However, for an accurate diagnosis and treatment of neurological disorders, professional consultation of a qualified neurologist is always necessary. Rehabilitation of patients with neurological disorders is a critical part of their treatment. Since many neurological disorders are characterized by a chronic and progressive course, rehabilitation measures are aimed at improving the patient's quality of life, as well as maintaining or restoring his normal functions [13].

Rehabilitation of patients with neurological disorders can include a wide range of measures, such as physiotherapy, orthotics, occupational therapy, speech therapy, psychological support and other methods aimed at restoring impaired functions. In addition, the scope of rehabilitation measures includes the organization of social support, which can help the patient cope with the shortcomings associated with his illness and teach him new skills that will allow him to cope with his illness more effectively. In addition, rehabilitation of patients with neurological disorders can help them overcome some psychological problems associated with their disease, such as depression, anxiety, social isolation and other problems related to quality of life.

In general, rehabilitation of patients with neurological disorders is a necessary part of their treatment, which helps patients to restore their impaired functions, improve their quality of life and learn how to cope with their illness. Rehabilitation measures should be carried out in accordance with the individual needs of the patient and be regular in order to achieve maximum effect [14].

Physiotherapy is an important component of the rehabilitation process for neurological disorders. Its goal is to restore the functions of the musculoskeletal system, improve motor activity and coordination of movements, increase muscle strength and flexibility, reduce pain and restore balance. Features of physiotherapy for neurological disorders may include the following methods:

1. Exercises for balance and coordination of movements. These exercises are aimed at improving coordination and balance, which is especially important for patients with central nervous system disorders.
2. Exercises for muscle strength and flexibility. These exercises are aimed at strengthening muscles and increasing their flexibility, which can help patients with many neurological disorders, such as stroke, paralysis, Parkinson's disease and others.
3. Electrical stimulation of muscles. This method can be used to improve muscle activity and strengthen muscles, especially in patients with nervous system disorders.
4. Massage. Massage can be useful to reduce pain and muscle tension, as well as to improve blood circulation and reduce swelling.
5. Hydrotherapy. This method can be used to relax muscles, reduce pain and improve blood circulation.
6. Movement therapy. This may include exercises on a simulator, walking, swimming and other activities that are aimed at improving motor activity and coordination of movements [15].

It is important to note that each patient has individual needs, and physiotherapy should be adapted to his specific condition and needs. Therefore, consultation with a neurologist and an experienced physiotherapist is necessary to develop an effective physiotherapy program for neurological disorders.

Orthosis is an important component of rehabilitation of patients with neurological disorders. It is aimed at restoring and maintaining optimal function of the musculoskeletal system, reducing pain and improving the quality of life of the patient.

Features of orthosis in neurological disorders may include the following aspects:

1. Individual approach. Each patient has their own individual needs, and the orthosis must be selected and adapted to the specific condition and needs of the patient.
2. Choosing the right type of orthosis. Depending on the neurological disorder, the orthosis may be aimed at improving mobility, supporting or protecting the limb. For example, an orthosis can be used to support the neck in patients with Parkinson's disease or to correct foot deformities in patients with cerebral palsy.
3. Regular maintenance and adjustment of the orthosis. The orthosis should be regularly checked for wear, as well as for compliance with changes in the patient's condition. This may include regular adjustment of the orthosis to ensure maximum efficiency.
4. Teaching the patient the correct operation of the orthosis. The patient should be trained in the proper use of the orthosis, including putting on, removing and cleaning regularly. This will help to maintain the effectiveness of the orthosis and reduce the risk of damage.
5. Collaboration between a neurologist, a physiotherapist and an orthopedist. Teamwork can help determine the most appropriate type of orthosis, its correct adjustment and ensuring maximum effectiveness in the treatment of neurological disorders [16].

It is important to note that orthosis should be only one of the components of the comprehensive rehabilitation of a patient with a neurological disorder, and not the only method of treatment.

Occupational therapy is an important component of the comprehensive rehabilitation of patients with neurological disorders. It is aimed at restoring or preserving the functions of the patient, improving his quality of life and social adaptation. The main purpose of occupational therapy is to help the patient in everyday life, work and rest. Occupational therapists use various methods and techniques to help patients cope with everyday tasks such as cooking, hygiene, dressing, work and leisure [17].

In neurological disorders, occupational therapy may include the following tasks and goals:

1. Restoration of fine motor skills. This may include the use of special exercises and games aimed at restoring hand and finger movements.
2. Improve coordination and balance. This may include exercises to improve balance and coordination of movements.

3. Improvement of cognitive functions. This may include the use of memory, attention, concentration, and problem-solving exercises.

4. Help with everyday tasks. This may include the use of special devices and technologies to help the patient cope with tasks such as cooking, hygiene, etc.

5. Support for social adaptation. This may include the use of games and exercises that will help the patient improve their social skills, such as communication, cooperation and respect for other people [18].

It is important to note that occupational therapy should be part of the comprehensive rehabilitation of a patient with a neurological disorder and should be carried out under the supervision and guidance of experienced specialists. Each case requires an individual approach and selection of the most appropriate methods and techniques.

Speech therapy is an important component of rehabilitation of patients with neurological disorders. It is aimed at restoring or improving the speech and language functions of the patient, improving his communication skills and social adaptation. Speech therapy can be useful for patients with various neurological disorders, such as stroke, Parkinson's disease, traumatic head injury, dementia, autism and others.

The main tasks of speech therapy include:

1. Restoration or improvement of articulation of sounds, pronunciation of words and phrases. Development and improvement of speech comprehension, as well as the ability to express your thoughts and ideas.
2. Assistance in the development and support of the patient's social adaptation, improving his communication skills and ability to interact with other people.
3. Training in compensatory strategies to improve speech and language functions. Assistance in using various alternative forms of communication, for example, through the use of symbols, gestures, electronic devices, etc.
4. Teaching the patient the ability to understand and follow instructions, distinguish and describe objects and events, communicate in a group, etc. [19].

Speech therapy should be conducted under the supervision and guidance of experienced professionals, such as speech therapists and speech therapists. They can develop an individual speech therapy program for each patient, taking into account his individual needs and the characteristics of a neurological disorder.

Psychological support is an important component of the rehabilitation program for patients with neurological disorders. Neurological disorders can greatly affect a patient's mental health, causing stress, depression, anxiety, social isolation and other problems. Psychological support can help patients cope with emotional and psychological problems, improve their quality of life and the overall effectiveness of rehabilitation. The main tasks of psychological support in the rehabilitation of

patients with neurological disorders include:

1. Help in overcoming psychological problems caused by a neurological disorder, for example, depression, anxiety, stress, social isolation and others.
2. Assistance in the development and support of positive psychological adaptation of the patient, which includes improving his self-esteem, confidence, ability to solve problems and adapt to new situations.
3. Assistance in teaching the patient strategies for managing their emotional state, for example, through the use of relaxation, meditation, music therapy and other techniques.
4. Assistance in the development of social support for the patient, which may include support from relatives, friends, other patients, as well as participation in group sessions.
5. Assistance in teaching the patient communication skills, which can improve his ability to communicate and interact with other people.
6. Assistance in teaching the patient the ability to manage their behavioral problems, for example, aggression, anger, irritability.

Psychological support can be provided by various specialists, such as psychologists, social workers, psychotherapists, family therapists and others. The approach to psychological support should be individual and take into account the characteristics of each patient and his neurological disorder. In some cases, medication therapy may be required, including medications for depression, anxiety and other mental problems [20]. In addition, psychological support can be included in a comprehensive rehabilitation program for patients with neurological disorders, which may include physical therapy, occupational therapy, speech therapy, orthotics and other rehabilitation methods. Interaction between specialists working with the patient can help improve the effectiveness of the entire rehabilitation program and ensure optimal results for the patient. In general, psychological support in the rehabilitation of patients with neurological disorders is an important element that can help patients cope with emotional and psychological problems, improve their quality of life and increase the effectiveness of the entire rehabilitation program.

DISCUSSION

The organization of rehabilitation of patients with neurological disorders may depend on many factors, including:

- type and degree of neurological disorder. Various types of neurological disorders have their own characteristics that can affect the organization of rehabilitation. For example, stroke patients may need intensive physical therapy to restore movement, and patients with Parkinson's disease may need occupational therapy to restore hand control and movement coordination;
- the patient's condition. The patient's condition during the start of rehabilitation may affect the organization of the

program. For example, patients with severe functional impairments may start with easier forms of rehabilitation, and then gradually move on to more complex forms as their condition improves;

- concomitant diseases. The presence of other diseases or complications may require adaptation of the rehabilitation program to meet the needs of the patient;
- age of the patient. The age of the patient can also influence the organization of rehabilitation. For example, older patients may need milder forms of rehabilitation than younger patients;
- availability of resources. The availability of resources, such as specialists, equipment and installations, can also affect the organization of rehabilitation. Lack of resources may limit the possibilities of rehabilitation or determine its form;
- social support. Social support can play an important role in the organization of rehabilitation. Having a supportive family or social network can help a patient overcome difficulties and achieve success in a rehabilitation program [21].

In general, the organization of rehabilitation of patients with neurological disorders should be individual and take into account all factors that may affect the effectiveness and safety of rehabilitation. It is important to develop a personalized rehabilitation program that will meet the needs of a particular patient. This may include a combination of various methods and techniques, including physical therapy, occupational therapy, speech therapy, psychological support, and others. It is also necessary to take into account the patient's needs in the field of adaptive technologies, medical devices and orthoses in order to ensure the best rehabilitation result. It is important to note that the rehabilitation of patients with neurological disorders can be a long and time-consuming process. Therefore, it is very important to keep the patient motivated and provide him with the necessary support during the entire rehabilitation process. In addition, regular monitoring of the patient's condition and adjustment of the rehabilitation program in accordance with his needs may be necessary to achieve the best result [22].

A personalized rehabilitation program is an important component in achieving optimal results in the treatment of patients with neurological disorders. Such programs take into account the individual needs of each patient, the level of his functional mobility, the presence of concomitant diseases, etc. The preparation of a personalized rehabilitation program begins with a thorough medical examination of the patient, which may include various types of diagnostic tests, including a medical examination, neurological examination, X-ray, MRI, etc. Based on the data obtained, the doctor draws up a rehabilitation plan that will meet the needs of each patient. A personalized rehabilitation program may include various methods and techniques, depending on the specific needs of each patient. This may include physical therapy, occupational therapy, speech therapy, psychological support and other methods. It is important that the rehabilitation program is dynamic, that is, it is regularly reviewed and adjusted depending on changes in the patient's condition and the results

achieved by him [23].

Personalized rehabilitation programs may also include the use of various medical devices, such as orthoses and prostheses, as well as adaptive technologies that can help the patient achieve the best result and improve his quality of life. One of the key aspects of personalized rehabilitation programs is also an individual approach to each patient and his family. Rehabilitation of a patient with a neurological disorder may include not only treatment, but also psychological and emotional support, which is also important to take into account in the preparation of the program. In addition, for the effective rehabilitation of a patient with a neurological disorder, close collaboration between various specialists is necessary, including doctors, physiotherapists, occupational therapists, speech therapists, psychologists, etc. Each specialist should be aware of the patient's condition and his achieved results in order to better coordinate their work and optimize the rehabilitation program.

It is important to understand that personalized rehabilitation programs are individual and unique for each patient. Each patient has their own specific needs and limitations, and the rehabilitation program should reflect these needs in order to be as effective as possible.

CONCLUSION

Rehabilitation of neurological spectrum disorders is an important and urgent problem in modern medicine. Neurological disorders, such as stroke, Parkinson's disease, traumatic head injury, etc., occur in a significant part of the population and can significantly worsen the quality of life of patients.

The recovery process after a neurological disorder can take a long time and requires an individual approach to each patient. Properly organized rehabilitation makes it possible to improve the functional state of the patient, which in turn improves his/her quality of life.

Rehabilitation of patients with neurological disorders can help reduce health care costs associated with prolonged hospital stays and readmissions.

In connection with the above, rehabilitation of patients with neurological disorders is an urgent task in medicine and requires the development of new methods and approaches to improve the effectiveness of the recovery process.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

All authors contributed in reviewing the final version of this paper

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