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Rehabilitacja mowy w chorobie Parkinsona

Rehabilitation of speech in Parkinson's disease

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Streszczenie

Choroba Parkinsona mimo, że stanowi w dzisiejszych czasach niepomyślną prognozę dla stanu zdrowia, ze względu na swój nieuleczalny charakter, może być leczona dzięki zastosowaniu wielu niefarmakologicznych metod. Dzięki którym pacjent będzie w stanie jak najdłużej zachować pełną samodzielność i sprawność ruchową. Bezpośrednią przyczynę choroby stanowi zaburzenie dotyczące prawidłowego funkcjonowania układu pozapiramidowego, co wiąże się z występowaniem charakterystycznych dolegliwości takich jak: zaburzenia funkcjonowania układu ruchu, w tym aparatu mowy oraz układu autonomicznego; nieprawidłowe czucie i zaburzenia psychiczne. Planując proces usprawniania, należy kierować się występowaniem podstawowych objawów takich jak: sztywność mięśniowa, spowolnienie ruchowe oraz drżenie. Jednym z efektów współwystępowania w/w objawów są zaburzenia mowy. Istnieje szereg cech

charakterystycznych dla zaburzeń mowy osoby z chorobą Parkinsona i dotyczą głównie jej jakości. Dysfunkcje te wpływają negatywnie na komunikację pacjenta z otoczeniem. Właściwie wdrożona aktywność fizyczna przynosi korzystne rezultaty, powodując opóźnienie narastania symptomów chorobowych.

Summary

Parkinson's disease in spite of being nowadays considered as an inauspicious health prognosis because of its incurable nature, can be combated by the use of a number of non-pharmacological methods. With their help a patient will be able to retain full independence and mobility as long as possible. The immediate cause of the disease is a disorder of the proper functioning of the extrapyramidal system, which is associated with the occurrence of characteristic symptoms such as dysfunction of the musculoskeletal system and the autonomic nervous system, abnormal sensation and mental disorders. Planning of the improvement is guided by the presence of the primary symptoms such as muscle rigidity, slowness of movement and tremor. One of the effects of the co-occurrence of these symptoms are speech disorders. There is a number of characteristic features for speech disorders of a person with Parkinson's disease and they mainly concern its quality. These dysfunctions negatively affect the patient's communication with the environment. Properly implemented physical activity brings beneficial results, causing a delay in the buildup of disease symptoms.

Słowa kluczowe: aparat mowy, dyzartria, fonacja, usprawnianie

Key words: speech engine, dysarthria, phonation, improvement

Admission:

Parkinson's disease belongs to a group of idiopathic and is one of the major health problems today, despite the fact that the symptoms have been characterized at the beginning of the nineteenth century. The key problem is a disorder involving all parts of the body. Including the symptoms of both diseases include motor, autonomic, as a psychic disorder. One of the typical symptoms of the disease are disorders of speech apparatus, which adversely affect the quality of life of patients. Because of the progressive nature of the disease, it is necessary the patient's rehabilitation, which will allow developmental delay symptoms, as

well as improve the general state of physical, mental and facilitate communication with the environment [1, 2].

The main aim of this work is to present selected methods of rehabilitation of speech in Parkinson's disease, including the characteristic symptoms of the disease. They will approximate treatment of Parkinson's disease through the use of physiotherapy, including the exercise of a speech therapy. Furthermore, it will be shown the positive impact of the activity undertaken on the patient's speech organ with descriptions of examples of exercises to help combat basic ailments.

The etiology and symptomatology

Parkinson's disease, despite many studies carried out is considered a disease of unverified cause. The main reason for its formation is believed both genetic factors, neurotoxic, and environmental. It is found the genetic inheritance of an autosomal dominant and recessive in 4% of patients. Parkinson's disease belongs to diseases involving the extrapyramidal system, progressing over a period of many years. Its immediate cause is degeneration of the central nervous system. Characteristic of this disease is damage to nerve cells in the basal ganglia area. Irregularities also occur within the neurons of the substantia nigra, the role of which is the release of dopamine in striatal structures. Parkinson's disease is manifested in the situation [3-7].

Parkinson's disease is characterized by a different image symptoms. With the development of the disease, symptoms worsen, leading in the late stages to limit the autonomy of the patient. For example, symptoms include standard. Trembling of upper extremities, and lower face, muscle rigidity, bradykinesia, loss of coordination and difficulty maintaining balance. Very often, the patient is also accompanied by functional disorders of the autonomic nervous system, and anomalies in the perception of sensory. The variety of symptoms gradually overlapping leads to severe disability. Symptoms occur in the area of the whole body, including the speech organ. At approx. 70 to 90% of patients were exhibiting speech disorders [8,9].

Speech disorders

Speech disorders character dysarthria and dysphonia significantly impair quality of life. Speech becomes monotonous turned down, without articulation of the time may be difficult to understand even by the environment. Modification under speech quality is

influenced by the occurrence of tremors, in particular mimic muscles of the face and airways, resulting in a problem arises trembling voice. Speech is mainly characterized by the occurrence of breathing and articulation-phonation irregularities [8, 10].
The most frequently occurring symptoms include:

- dysarthria, or problems with clear and intelligible articulation of sounds,
- palilalia, meaning uncontrolled spoken repeat their words, syllables or letters,
- hypophonia, understood as a reduction in the volume of speech characteristic is mentioned in a whisper,
- dysaprosodia, the speech monotonous, it becomes devoid of modulation and accent,
- paraphrasia, the use of words like sound instead of those which in fact would like to speak ill,
- bradilalia, defined as speech slowed, which occurs damage to the globus pallidus,
- tachilalia, the question seems to be accelerated and appears in case of damage to the striatum [11-13].

Rehabilitation of speech

One of the primary symptoms of Parkinson's disease, worsening significantly the quality of life, in particular, communicate with others, they are slurred speech. In Parkinson's disease titer they received one or dysarthria dysartrophonia. These symptoms are not due to poor vocabulary, but the way in which a particular person speaks. The most frequent disorders are:
- incorrect articulation of sounds,
- insufficient strength of voice, called hipophonią,
- changes in voice intonation and melody leading to prosody.

The most common cause of irregularities in the way the camera is inadequate muscle function buccal-facial and throat muscles. Also a decrease in difficulty is vital lung capacity. The impact on voice quality is also accompanying the patient bradykinesia, which affects the slowing of speech. In some cases, there is trembling voice, caused by trembling muscles involved in the process of breathing and the soft palate. The rehabilitation program should be implemented in strict sequence. Improvement begins by introducing exercise loosening, then apply the respiratory training, so that in subsequent stages of the exercise start speech therapy and articulation [14-16].

Relaxation exercises

A significant problem is the muscle stiffness, which has a considerable ability to speak on, so before exercise proper consideration should be given training aimed at relaxing the muscles of the whole body. Relaxation exercises should be performed with the use of background music. The adoption of appropriate position ensures proper exercise technique and the expected relaxation. Improving activity is initiated by relaxation of the muscles of the lower limbs, then the stomach muscles, chest and back, and finally the muscles of the upper limbs, head and neck [15].

Breathing exercises

Another important step in improving the speech engine is to introduce breathing exercises that can interleave the previously described exercises relaxant. They are extremely important because the right speech is necessary to proper breathing. To obtain the suitable phonation, and for supplying the organism in the right portion of the oxygen, the best is the use of rib-abdominal breathing track. It is most advantageous because it allows the involvement of all the respiratory muscles, bringing results such as an increase in vital capacity and the volume of the chest. The main purpose of breathing exercises is:

- to teach the patient how to properly control the inhale and exhale,
- vital lung capacity increase,
- correcting improper breathing patterns,
- to strike a balance tension of the respiratory muscles.

Significant improvement is in the process of deepening the breath and exhalation primarily because it is precisely this ability to ensure proper pronunciation and volume. It is worth to explain patient how moves chest, hands touch on example, through the specific areas on the chest. In addition, it uses resistance exercise, forcing the patient to an effective deepening of breath, as well as passive or active exercises that stretch the muscles of the limbs. During gymnastics remember that air during inhalation should be taken through the nose and mouth during exhalation blown. Improving breathing can spice by the command the patient to a series of specific spoken words or sentences [15]. Deepening the exhalation phase provides a better pronunciation of words long, and even short sentences [5].

Speech therapy exercises

The next step in the improvement of breathing exercises is the use of appropriate rehabilitation program in speech therapy exercises. Their aim is:

- improving the quality of speech, by restoring the ability to clear, comprehensible to others speak,
- modulation of breath,
- the ability to modify accentuation of expression,
- improvement of phonation voice,

Extremely important in this stage of the exercises facial muscles and facial muscles enabling movements of the lips mouth and tongue. Most effectively control the quality of exercise in front of a mirror. When the correct mimic muscles work should speak sounds, words and sentences. Due to the fact that Parkinson's disease is accompanied by phonation voice disorders, should be taken into account in the rehabilitation exercise a positive influence on improving the strength, intensity, modulation and voice quality. The purpose of these exercises is to teach the patient how to control the pitch of the voice, getting the proper intensity, as well as the coordination of breathing and speech. Phonation exercises to bring positive results, should be done in certain stages. The first is the use of exercises involving the controlled initiation of voice, and his skilful retention. In the last stage we focus on the modulation of speech volume. The problem related to the onset of speech by the patient, can be improve by means of a sound stimuli, for example. Clapping of hands, as a signal indicating the start of speech [15].

Articulation exercises

In the treatment of dysarthria it is necessary to use articulation exercises. As in the case of improvement of improving phonation voice, articulation rehabilitation takes place in several stages:
- speak short words or short shouts,
- two or uttering words three syllable,
- gradual introduction of polysyllabic words,
- learning to speak complete sentences,
- reading aloud the full text.
- spontaneous and free speech, for example, storytelling.

The condition for the transition to the next stage is to master the skills of the previous one. During the exercise, each articulation of the words should be pronounced very carefully, loudly, while taking into account the express facial expressions [15].

Summary

A number of characteristic symptoms of Parkinson's disease and their co-occurrence contributes to the occurrence of disorders of the speech apparatus. There are various ways of slowing down the development of communication disorders in Parkinson's disease. It has been shown that characterized recognized efficacy accordance with the multiannual ongoing research. The application of preventive and comprehensive rehabilitation allows speech to improve communication [17-19]. Effective rehabilitation is runs in four consecutive stages. Basic techniques rely on the introduction of exercises: loosening, breathing, articulation and speech therapy. The use of these methods in the field of physiotherapy can ease the patient's functioning in everyday life, improve self-esteem, as well as delay the intensification of symptoms [20,21].

Conclusions

1. The main cause of the disease is a malfunction of the extrapyramidal system, associated with osteoarthritis of the central nervous system. Disorders occur due to loss of cells located in the substantia nigra, leading to a reduction of not released by the neurotransmitter dopamine.

2. The occurrence of the symptoms of Parkinson's disease such as bradykinesia, tremor, rigidity, affects the development of the speech disorder.

4. The main cause of irregularities in the speech is incorrect muscle function buccal-facial and larynx, and decreased vital capacity.

5. Based on the symptoms you can plan your course of treatment with physiotherapy. The improvement takes into account the fact that the symptoms of the disease will progress with time, so you should pay attention to the special role of exercise to prevent unwanted symptoms.

6. Properly and systematically carried out rehabilitation significantly delays the development of communication disorders the patient.

7. significant therapeutic process for the rehabilitation of speech play-step process for improving the running order of the successive classes: loosening, respiratory, speech therapy and articulation.

8. relaxation exercises are important in the prevention of muscle rigidity.

9. For normal phonation, and to supply the organism in the right portion of the oxygen, most preferred breathing track rib-ventral.

10. Extremely important are exercises mimic facial muscles, and the muscles of the lips mouth and tongue. It is important to control the course of exercise in front of a mirror.

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