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Neuropsychological Correction of Psychosomatic Disorders

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Abstract: *The article analyzes one of the effective methods of neuropsychological correction of psychosomatic disorders that arose as a result of nervous breakdown and under the influence of chronic stress. The interrelation between the influence of psychological factors and an inadequate emotional response to stress on the appearance of psychosomatic disorders is described. The classification of psychosomatic disorders, which include neurosis-like, conversion, somatomorphic and hypochondriacal disorders is considered. Some aspects of the action of the mechanism of emotional burnout, which is the cause of the appearance of a complex of symptoms of psychosomatic disorders are analyzed. Taking into account the individual neuropsychological (including characteristics of the encephalic asymmetry) and psychophysiological characteristics of the client with psychosomatic disorders, the neuropsychological correction of psychosomatic disorders is described. The most significant conditions for the neuropsychological correction of psychosomatic disorders are noted. A system of neuropsychological corrective measures has been drawn up for clients with emotional burnout, as a result of which psychosomatic disorders appear.*

Keywords: *Central nervous system, emotional response, stress resistance, psychosomatic health, stressful situations, psychophysiological processes, emotional burnout.*

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Introduction

In conditions of unstable social situations, job loss, prolonged deprivation of social needs against the background of emotional-phobic experience of pandemics, the problem of stress resistance and preservation of psychosamotic health has become one of the topical issues in applied science. From the point of view of the physiology of higher nervous activity, the parts of the central nervous system are responsible for satisfying human needs, as well as for providing various forms of behavior and emotional reactions. First of all, this is the limbic system, the mediobasal parts of the brain as a formation of the ancient, old and diencephalon of the cortex, which maintain close contacts with the reticular formation and nuclei of the diencephalon. When a person finds himself in difficult life situations with frustration of her actual needs, these parts of the brain can lead to dysfunctional disorders, and the nervous system can lead to long-term fatigue. This requires urgent neuropsychological correction at the bodily, cognitive, emotional and behavioral levels.

High stress resistance in a person with an adequate emotional response and a strong nervous system is able to prevent negative emotions from starting psychophysiological reactions, which, under the influence of stress, "somatize" and turn into psychosomatics. However, there are circumstances (often a series of difficult stressful situations, professional crises, family problems and an unexpected loss of values at the same time) in which stress-resistant people themselves can have psychosomatic diseases. It is known that the nervous system is rather difficult to recover, but nevertheless, a neuropsychological corrective tool for recovering nervous processes at the psychophysiological, cognitive and emotional levels can replace drug treatment for certain psychosomatic disorders. In this connection, the study of the problem of neuropsychological correction of psychosomatic disorders is extremely relevant in modern medical psychology and neurosciences (Demchenko, 2021; Prots, 2021; Kosholap, 2021).

The purpose of the article is to theoretically explain the tasks, content and features of neuropsychological correctional work with psychosomatic clients. The novelty and practical importance of the article lies in the identification of effective methods of corrective work with psychosomatic clients who have experienced chronic stress and received psychosomatic disorders against the background of emotional burnout. Methodological aspects and methods of neuropsychic correction of psychosomatic disorders can be used in the clinical practice of medical

rehabilitation centers for the lend of medical, psychological and psychotherapeutic assistance to clients who show signs of professional burnout. In the practical work of medical psychologists, social workers, military psychologists and psychologists in the field of education, neuropsychological generalizations can be introduced.

Theoretical analysis of the study of the problem of neuropsychological correction of psychosomatic disorders

In modern psychosomatics and the scientific paradigm of psychocorrection, the influence of professional stress on the violation of an individual's adaptation to the requirements of the environment is analyzed. In this connection, there is a psychophysiological and psychological inconsistency between mental processes and the somatomorphic organization of the human body. In many primary sources, psychosomatic disorders are mentioned only as one of many psychological adaptation disorders that occurs as a result of emotional burnout in the workplace and under the influence of professional crises. Burnout is associated with a loss of optimal efficiency, poor sleep, low emotional tone, constant fatigue, anxiety-depressive symptoms, manifestations of inadequate emotional reactions - aggression, anger, irritation, which turn into a psychosomatic symptom. Emotional burnout that accompanies professional burnout is characterized by the sequential development of increased nervous tension (Vodopyanova, Starchenkova, 2008; Kokun 2013; Chemali, Ezzeddine, Gelaye, Dossett, Salameh, Bizri, Dubale Fricchione, 2019). According to F. Alexander (1953), intense psychophysiological and emotional reactions as a factor in psychosomatic diseases can be caused even by conflicts and toxic relationships that are significant for a person.

Levels of stress, resistance, and emotional exhaustion can be caused by physical and mental stress. There is a loss of available mental resources, a decrease in emotional tone, a weakening of the nervous system, which manifests itself through: emotional shortage (development of emotional insensitivity against the background of overwork, minimization of emotional contribution to interaction, automatism, specialist burnout during the performance of professional duties; the appearance of irritability, resentment); emotional alienation (creating a protective barrier in communications; a person almost completely excludes emotions from the sphere of activity, he almost does not care about anything and almost nothing causes an emotional response - neither positive nor negative, and

this is not a defect in the emotional sphere, not a sign of rigidity, but an acquired emotional defense due to a long time of work with clients); depersonalization (violation of relationships, the development of a cynical attitude towards those with whom a person should communicate when performing his professional duties); psychosomatic and psychovegetative disorders (deterioration of physical well-being, the development of psychosomatic and psychovegetative disorders such as sleep disorders, headaches, problems with blood pressure, gastric disorders, exacerbation of chronic diseases. Even thoughts about work cause a bad mood, negative associations, insomnia, fear, discomfort in the heart, vascular responses, etc.) Gridkovets (2018). Psychotherapeutic methods are effectively used to recover psychosomatic health against the background of emotional and physical burnout, in particular, somatic and art therapy, which are able to support a neuropsychological level of health through training in visuospatial orientation, motor development, overcoming emotional stress, decreasing sensory and emotional discomfort.

Of course, the separation of soul and body can only be conditional. Somatically preoccupied patients may have neurosis-like disorders and psychoses, such people often need psychotherapeutic help. Depression and neurosis are often accompanied by impaired somatic functions, primarily vegetative. The transitional link of psychosomatic disorders is located between bodily and mental diseases, which are functional and proceed without organic changes in organs and tissues. This arises under the influence of a real or latent mental factor - the strength of the manifestations of psychosomatics depends on its level. Psychosomatic disorders react well enough to psychotherapy and poorly to drugs. In a broad sense, psychosomatic disorders include conversion and somatoform disorders, eating and secretion disorders, sleep and sexual function disorders. Conversion disorders include pseudo-neurological disorders of the sensory and motor functions, somatoform disorders - somatized and hypochondriacal disorders, somatoform vegetative dysfunction and chronic somatoform pain disorders. Psychosomatic diseases are distinguished in the precise meaning of the word (organic psychosomatosis), they compose the "holy seven": essential hypertension, thyrotoxicosis, neurodermatitis, rheumatoid arthritis, bronchial asthma, ulcerative colitis and gastric ulcer, Starshenbaum (2005).

Psychosomatic disorders have intense bodily manifestations of psychological problems (which persist for a long time). First, an internal

conflict between the conscious and unconscious personality structures arises or intensifies, which manifests itself in dissociation. Then it finds a way out in the appearance of psychosomatic symptoms (release of psychological tension). For example, pain in the lower back is often accompanied by feelings of lack of help and support; pain in the upper back is quite often associated with moderate aggression; and pains in the lower abdomen accompany a variety of sexual neuroses. Somatical pain disorder is a disorder characterized by pain, where psychological factors play a leading role in the onset, severity and duration of this pain, Kulakov (2007). Neuropsychological correction should be carried out taking into account the bodily localization of various pains, the correct definition of tense muscles and the specifics of the manifestation of psychosomatic symptoms and the nosological picture of the disease.

G.V. Starshenbaum (2005) in his work gave a detailed description of psychosomatic disorders and their psychotherapy in combination with neuropsychological techniques (relaxation, physical activity and motor); I.G. Malkina-Pykh (2005) examines psychosomatic theories and models, and also carries out a detailed analysis of effective techniques for psychocorrection and psychotherapy of psychosomatic disorders; The work of N.E. Vodopyanova and E.S.Starchenkova (2008) presents a system of corrective measures for clients with emotional burnout, which can be successfully applied in the neuropsychological correction of psychosomatic symptoms; The precise aspect of the relationship between emotions and psychosomatics, as well as practical recommendations for avoiding psychosomatic disorders, was highlighted by P.V. Evdokimenko (2020); O.O. Khaustova (2010) carried out a detailed classification of psychoanalytic concepts of psychosomatic medicine and psychosomatic theories, as well as the development of a model for the formation and complex correction of psychosomatic illness.

Foreign scientists are actively exploring the methodological paradigm of psychosomatics, applied aspects of psychotherapy and correction. In modern foreign literature, Hamida Xardel-Haddab (2009) described a model of maladaptive behavior with emotional reactions of aggression against the background of psychosomatic disorders, Thomas N. Wise (2014) interestingly noted about modern psychosomatics and methods of psychodynamic therapy, N. Sonino, R. Peruzzi (2009) analyzed the main psychosomatic theories and presented a biopsychosocial model of helping psychosomatic clients in certain aspects, G. J. Taylor, R. M. Bagby (2021)

described the relationship of alexithymia and a certain spectrum of psychosomatic disorders, Western researchers Jeffrey Burgdorf and Jaak Panksepp (2006) studied the relationship between psychoemotional stress and its weakening and systemic cerebral mechanisms, in particular, parts of the limbic system, cortex and subcortical formations (Wilmar B. Schaufeli, Isabel M. Martínez, Alexandra Marques Pinto, Marisa Salanova, Arnold B. Bakker, 2002) describe the inappropriate emotional response of young people to stress, as well as signs of burnout (Jamila Geri Tomaschewski-Barlem, Valéria Lerch Lunardi, Aline Marcelino Ramos, Rosemary Silva da Silveira, Edison Luiz Devos Barlem, Carolina Mirapalheta Ernandes, 2013; Eduardo Motta de Vasconcelos, Charlene Olive 2019) offer burnout prevention for young people. It certainly prevents psychosomatic disorders.

First of all, the system of corrective measures of medical and psychological rehabilitation of patients is based on drug and physiotherapeutic rehabilitation of psychosomatic health. In the treatment of patients with psychosomatic diseases, an effective physiotherapeutic effect is electrosleep - a method of electrotherapy. It is based on the effect of a pulsed current of low frequency and low strength on the central nervous system (brain), as a result of which a state close to physiological sleep takes place. The mechanism of action of electrosleep is a complex process that combines the direct and reflex influence of impulse current as a weak rhythmic stimulus to certain structures of the brain (subcortical formations, cerebral cortex). The impulse current penetrates into the cranial cavity and acts directly on the subcortical part of the brain, where the hypothalamus, nuclei of the optic hillocks, reticular formation, limbic systems, etc. are located. If the patient achieves a state of muscle relaxation and at the same time changes in circumstances from negative to comfortable (emotionally positive state), then his anxiety, stress and pain are blocked. In addition to listening to the sounds of nature, binaural rhythms were used to enhance this effect. Physical factors also affect the functional systems of the body using the nervous system and with its help to stimulate selfrecovery processes. Thanks to the principle of nervousism, which means the unity of the nervous and humoral ways, the influence of the energy of physical factors on the human body from molecular processes to the activity of the body as a whole is realized, Savenkova (2018). According to the above-mentioned neuron, physical and psychological methods, the psychological purposes of introducing a comprehensive medical-psychological program

are to recover the spirit, decrease anxiety and depression, and increase adaptation to stress.

Neuropsychological techniques for the recovery and correction of psychosomatic disorders include those that are often used in psychotherapeutic practice, for example, progressive muscle relaxation (Jacobson's method). The tension of the corresponding muscle group corresponds to a different type of emotional response. For example, a depressive state is accompanied by tension in the respiratory muscles; fear - muscle spasm, articulation and phonation. Each part of the brain functions together with the peripheral neuromuscular apparatus and forms the cerebral neuromuscular circle. Arbitrary relaxation allows to influence not only the peripheral, but also the central part of the circle. The aim of the method is to achieve arbitrary relaxation of the striated muscles at rest. The client is asked to establish which muscle groups are more tense with various negative emotions (fear, anxiety, excitement, embarrassment) or painful conditions (pain in the heart, increased blood pressure, etc.). Then it is possible to learn how to prevent or block negative emotions or painful manifestations by relaxing local muscle tensions. The "bodily states" test can simultaneously be a method of correcting the condition of clients, it is used in group body-oriented therapy: a complex of diagnostic gymnastics is preliminarily done, which is specially designed to activate the joints and spine, leading muscle patterns, both in statics and in dynamics; reproduction of bodily feelings in drawings, Malkina-Pykh (2005).

In the prevention and overcoming of emotional burnout, N.E. Vodopyanova and E.S. Starchenkova (2008) use technologies that can be successfully introduced into a neuropsychological correction program to influence psychosomatic symptoms, namely: relaxation physical exercises, respiration exercises, sensory and mental stimulation techniques, mental desensitization, meditation, "toning" (an imaginary psychophysiological state that stimulates certain body functions – heart rate, arteriotony, motor, sensory and other functions; ideomotor training as imagination of motor actions that increase physical and emotional tone; imagination of situations that can cause an increase in psychophysical tone) regulation of vegatative processes (autogenous training, respiration exercises to control neuropsychic tension and mood).

Important conditions for the neuropsychological correction of psychosomatic disorders

In our opinion, neuropsychological correction of psychosomatic disorders that arose against the background of emotional burnout, under the influence of unfavorable social situations, as well as professional crises and chronic professional stresses, should be carried out using the following methods: cognitive behavioral therapy, which aims to treat neurotic disorders; working with disturbing thoughts; effective mastering by the client of psychotechnics for neutralizing high anxiety and working with anxiety and optimizing the psychoemotional state at the emotional, cognitive and behavioral levels; the client gaining experience of self-regulation to overcome burnout; body-oriented therapy, which covers a complex of relaxation body techniques, as well as complex psychotherapy, taking into account the psychological characteristics of the client, his specificity and the individual neurophysiological and nosological level of psychosomatic disorders. Significant is the expansion of the client's adaptive resources to overcome stressful situations and change the attitude towards it, as well as an increase the level of culture of personal psychohygiene.

It is known that left-handed people can be prone to excessive burnout, which is associated with activation of the right hemisphere of the brain. It can be assumed that they may be susceptible to neurotic experiences of stressful situations against the background of disorders of hormonal metabolism. Violation of self-regulation, psychophysiological characteristics, inadequate emotional reactions to chronic stress or crisis situations are reflected in the psychosomatic symptoms of "right-hemispheric people", which, taking into account their individual, personal, psychophysiological and neurodynamic characteristics, need neuropsycho-correction.

Psychosomatic syndrome of the burnout can occur against the background of chronic stress, reactive depression, professional crises. To reduce the effectiveness of psychosomatic disorders of a broad spectrum, neuropsychological correction of emotional disorders can be effective. The study of interhemispheric connection in relation to emotional states showed that the right hemisphere is more associated with negative emotions (Antropova, Andronnikova, Kulikov, Kozlova, 2011). People with a dominant left hemisphere have a low tendency to depression and low anxiety, they are more emotionally stable and extroverted. We believe that " sinistrocerebral people" may be less susceptible to psychosomatic diseases,

since their emotional response to stress is more adequate. Moreover, it is not enough to take into account only the functional features of brain asymmetry for neuropsychological diagnosis and correction of psychosomatic disorders. However, complex neuropsychotic correction of emotional disorders can be effective.

The most essential conditions for neuropsychological correction are: the presence of information collected by the neuropsychologist about the main factors of psychosomatic disorders, the characteristics of the client's emotional response to stress, his individual neuropsychological and psychophysiological indicators and nosological data; program development for neuropsychological correction of psychosomatic disorders based on the collected data and determination of its effectiveness and approbation based on the use of an integrative psychosomatic approach to neuropsychological correction of psychosomatic disorders. In addition, it is advisable to carry out neuropsychological correction in combination with psychotherapy, in particular, this the case of emotional disorders. As already noted, psychosomatic disorders are often accompanied by negative emotions that are "chronic" in nature, that is, they often arise in connection with stressful situations. For example, S.O. Kulakov (2007) considers a resentment as a form of aggression, a manifestation of envy and hatred towards others, which are caused by a feeling of anger, dissatisfaction with a particular person or the whole world in general for real or contrived suffering. It is difficult to describe a resentment from the point of view of simple emotions; it is more appropriate and constructive to describe it from the point of view of object relations and their significance. Systemic family psychotherapy helps the client to become aware of them, through which inappropriate emotional reactions weaken their effect and stop to support the effectiveness of psychosomatic disorders on the body as a whole.

Therefore, for the neuropsychological correction of psychosomatic disorders of persons with emotional exhaustion (which can be typical mainly for representatives of the military sphere, teachers and doctors), it is necessary to monitor the symptom complex of psychosomatic illness and diagnose the psychophysiological information of clients, their mental and emotional state, neurophysiological characteristics of the central nervous system, working capacity, peculiarities of the course of mental processes, personal characteristics and functional reserves of the body; identify and reduce the intensity of the impact of stress factors on the body; apply

individualized neuropsychological technologies in accordance with the investigated resources of the human body.

Conclusion

The neuropsychological symptom complex of psychosomatic disorders is associated with neuroses, maladaptive mechanisms of psychological defense, inadequate emotional reactions, burnout of the nervous system. Burnout syndrome often occurs under the influence of chronic stress, as well as in conditions of social deprivation of needs, the frustration of which causes such intensity and strength of emotional response that mental somatization occurs at the psychophysiological and neurohormonal levels. Taking into account the neurophysiology of the origin of somatic diseases, one of the most effective methods of correcting mentally somatic disorders will be neuropsychological, it depends on the neurophysiology of the origin of somatic diseases.

In conditions of chronic stress, the effectiveness of the psychological mechanisms of maladaptation can cause burnout syndrome, which is closely related to psychosomatic diseases and can deplete the nervous system. It is very important to carry out neuropsychological prevention and correction for this. This is an urgent problem in neurosciences, especially for the implementation of health rehabilitation programs in centers for the provision of medical and psychological assistance.

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