

PECULIARITIES OF MEDICAL-PSYCHOLOGICAL REHABILITATION
OF PATIENTS WITH CERVICAL OSTEOCHONDROSIS

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In this article we have considered patients' physiological, psychological and social peculiarities with cervical osteochondrosis, as well as the ways of its prevention and treatment. It has been detected that patients with cervical osteochondrosis have reduction of activeness of defense mechanisms, which manifests in arterial pressure as well as anxiety, aggression and low level of activity. At the same time these patients are described by high level of tiredness. The complex program, based on the obtained data (includes physical, physiotherapeutic and psychological affective technologies), promotes neurovegetative system optimization, and as a result affects the improvement of patients life quality.

Keywords: cervical osteochondrosis, defense mechanisms, state of health.

Introduction. One of the most important medical, social and economic issues of the modern society are diseases of vertebral neurology, the prevalence of which according to the WHO in economically developed countries is found equal to non-infectious epidemic indices [1]. Among these diseases a significant place takes up cervical osteochondrosis, performing degenerative-dystrophic function, contributes to the destruction and disorder of the herniated discs, resulting changes of the entire spine structure. At the same time, peripheral nervous system disorders caused by spinal osteochondrosis lead to destabilization of workability as a result enlarging economic and moral damages [2].

Neurological manifestations associated with cervical osteochondrosis such as dizziness, periodic headaches, nausea, and disorders of digestive, respiratory, and mental functions contribute to the development of disability and affect the quality of human activity

In the development of cervical osteochondrosis, the psychological component of the patient does not remain untouched, in particular, weakening of the defense mechanisms, manifestation of which is the reduction of activity and communication, low level of anxiety, aggression, and even depression can be developed. At the same time, it is known that the frequency of depression occurrence during development of osteochondrosis is about 2.5 times higher than during other diseases [3].

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Specific psychophysiological manifestations of cervical osteochondrosis such as high pain sensation, decreased activity of defense mechanisms are largely conditioned by chronic and long-lasting nature of the disease, forced changes in habits and lifestyle, as a result of constant waiting for the “pain” occurrence, as well as the cerebral-vascular tenderness, with autonomic dysfunction syndrome [4].

Despite the prevalence of this disease in the world and particularly in Armenia, as well as the challenge and urgency of its treatment and prevention, there is still a lack of comprehensive understanding of the preconditions for the development of the disease and its complex prevention and treatment projects [5].

Taking into consideration the abovementioned, we assume that cervical osteochondrosis has multifunctional origin and, therefore, requires a complex approach for preventing and correcting it.

Based on the evidence, we aimed to identify the peculiarities of the autonomic and psychological parameters of patients with cervical osteochondrosis and their changes under the influence of complex (therapeutic physical exercises, ultrasound, psychological) measures.

To achieve the goal, the following tasks were proposed:

1. to examine the neurological and psychophysiological peculiarities of patients with cervical osteochondrosis;
2. to examine the severity and specificity of the pain syndrome manifestation among patients with cervical osteochondrosis;
3. to detect changes in the expression of anxiety, mood, activity and state of health of patients with cervical osteochondrosis under the influence of complex therapeutic measures;
4. to evaluate the long-term effectiveness of complex usage of kinesitherapy and psychotherapy among people with early cervical osteochondrosis;
5. to substantiate the reasonability of complex usage of kinesitherapy and psychotherapy in physical rehabilitation of patients with cervical osteochondrosis.

Materials and Methods.

Object and Subject of Research. Psychophysiological features of long-term pain syndrome among patients with cervical osteochondrosis. The effects of complex therapeutic measures on pain sensation, activity and state of health among patients with cervical osteochondrosis. The subjects of the study are the representatives of both sexes aged 35–50 with cervical osteochondrosis.

We used testing methods, questionnaires, observations, record of physiological indicators (B/P, pulse) and methods of the experiment to solve the research problems.

In order to diagnose psychophysiological peculiarities of patients, we used H. Eysenck’s “Self-Evaluation of Mental State” (SEMS), “Sensitivity, Activity, Mood” (SAM) tests, recording heartbeat rate and blood pressure indexes at the same time.

Experiment was a complex of physical and psychological exercises aimed at the physical, psychological, and physiological deformation of a person.

We applied therapeutic physical exercises, massage, ultrasound, physiotherapy, manual therapy, and psychological corrective techniques aimed at activating defense mechanisms. Techniques of art therapy, aimed at identifying and correcting the causes and consequences of anxiety and techniques aimed at improving self-esteem have been applied. The duration of the experiment was six months overall, but

during one month they attended intensive training 12 times, after which they attended twice a month in order to maintain and strengthen the results. After the experiment we performed a retesting for evaluating the effectiveness according to their state of health, changes in activity, mood, blood pressure, pulse and the level of tiredness.

The choice of research was made up by 40 people, who were divided into two groups: experimental and control-related according to the presence of illness. The 1st group included women with cervical osteochondrosis, whose diseases were at different levels of development, starting, medium and acute. The 2nd group included practically healthy women.

Mathematical analysis was made according to the obtained results with the help of SPSS statistical software package (SPSS 20.0 for Windows).

Results and Discussion. According to H. Eysenck SEMS test, the results of the intergroup comparative analysis show that there was a low level of aggressiveness and insufficiency in the 1st group, and frustration and distress were noticed at a middle low level. In the case of the healthy group the indicators were in the middle-level domain (Fig. 1).

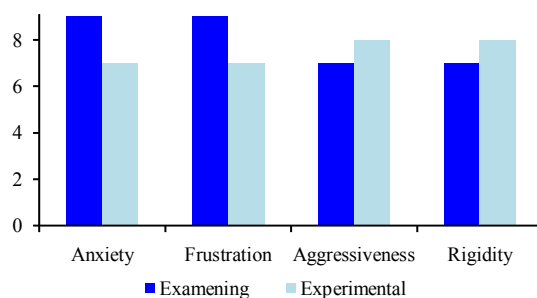


Fig. 1. Expression of mental health self-esteem in test and experimental groups.

According to SEMS test, it was found that the 1st group had a low level of aggression and rigidity, but frustration and anxiety were at average level. At the same time, the 2nd group had middle level of expression of the same variables: aggressiveness, rigidity – 7 points, frustration, anxiety – 9 points.

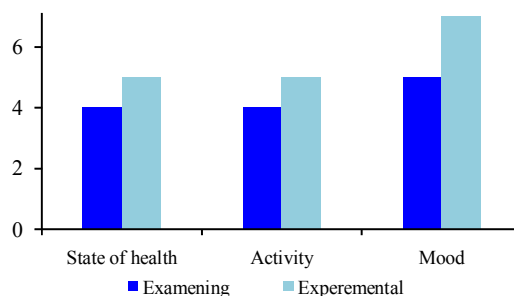


Fig. 2. State of health, activity and mood expression in test and experimental groups.

Similar results were also recorded in the SAM test. Specifically, these variables among the patients with cervical osteochondrosis were at a low-level domain, whereas in the group of healthy patients for the same properties middle degree of expression was recorded.

It should be noted that depending on the degree of expression of the disease (starting, medium and acute), differences were also recorded, as the quality of the disease increased, the level of expression decreased (Fig. 2).

As seen in Fig. 2, a low level of state of health, activity and mood was recorded in the cervical osteochondrosis test group – 4 points, whereas the subjects of experimental group were characterized by average – 5 points.

Differences in tiredness level were also revealed during the conversation. For example, a high level of tiredness is common in the cervical osteochondrosis test group. According to their subjective opinion, the quantitative and qualitative indicators of workability have altered with the occurrence of the disease they get tired faster and recover longer as compared with their healthy condition.

At the second stage of the study we selected 15 patients with cervical osteochondrosis, who voluntarily participated in the experiment. The experiment was, as we have already mentioned, a complex program, the targets of which are the psychological, physiological and physical components.

The physiological indicators for assessing the effectiveness of the experiment indicate the activation of person's defense mechanisms. For example, as a result of the experiment the systolic and diastolic pressure indicators have increased significantly, approaching the normative indicators of the given age group (Fig. 3).

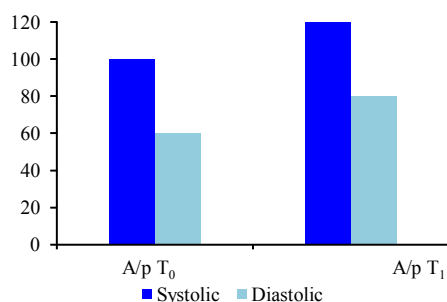


Fig. 3. The expression of arterial pressure.

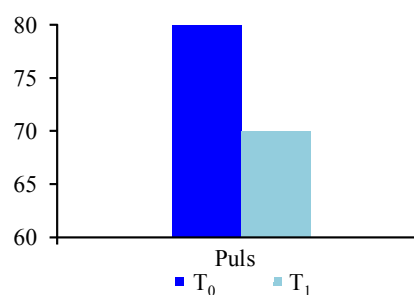


Fig. 4. Expression of pulse indicator.

As seen in Fig. 3, the average initial expression of pressure is within $T_0=100/60$ limits, and the final is in $T_1=120/80$ limits.

The effects of kinezioterapic and psychiatric measures on the cardiac activity of patients with cervical osteochondrosis. As seen in Fig. 4, the average pulse expression is at the initial stage of $T_0=80$ beat limit, and the final is $T_1=70$ beat. Thus, the results show that patients with cervical osteochondrosis are characterized by low levels of anxiety, aggression, which indicate weakening of defensive mechanisms in the development of the given symptom.

At the same time, the physiological features of the disease (such as blood pressure, pulse, tiredness), as well as connected with its long-term and chronic nature, the increase of pain sensibility can be noted, which, in turn, enhances the specified psycho-physiological portrait.

The results we recorded show, that as a result of experiments patients' pain sensibility decreased and the anxiety and aggressiveness increased to the middle level: the following speaks about the activation of defense mechanisms, which also reflects on the state of health, activity and mood.

The results recorded by the observation method are also interesting, which note that among the subjects of research the interest towards life is increasing, and the strength of manifestations of emotions also changes.

Summarizing the results, it can be concluded that the usage of complex health caring and prevention technologies, based on different physical exercises, physiotherapeutic measures, exercises for psychological effects, taking into account the pseudo-physiological features of the subjects, promotes neurovegetative optimization.

Moreover, the expression of physiological and psychophysiological responses to the application of complex technologies is largely conditioned by the progress and the level of the disease: at the earlier stages it is possible to prevent the development of the disease, unlike at the high level of disease development, when opportunities are limited only by corrections.

Thus, it is possible to say that complex prevention and treatment of cervical osteochondrosis contributes to improving the quality of life, ensuring the active and cheerful mood and well-being of people.

Conclusion.

1. Peculiarities of the psychophysiological status of patients with cervical osteochondrosis have been detected, which manifest in low levels of aggressiveness, activity, state of health and mood, as well as low BP levels and high vessel beat rates, unlike healthy individuals regardless of gender, age and profession.

2. A high degree of tiredness is found among the patients with cervical osteochondrosis, which affects on their quality of life.

3. The usage of complex health caring and prevention technologies, based on different physical exercises, physiotherapeutic measures, exercises for psychological effects, taking into account the pseudo-physiological features of the subjects, promotes neurovegetative system optimization.

4. It is founded that the expression of physiological and psychophysiological responses to the application of complex technologies is largely conditioned by the progress and the level of the disease at the earlier stages it is possible to prevent the development of the disease, unlike at the late level of disease development.

5. The data obtained can be used for corrective, preventive and therapeutic techniques and programs in the treatment of viscerovertebral disorders.

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REFERENCES

1. **Ayvazyan V.P.** Traumatology and Orthopedic. Sauth. Pub., 1996, 1000 p.
2. **Bolotov D.A.** Industrial Technique. Novorossiysk, 1991, 76 p. (in Russian).
3. **Berjekova H.G.** Chronology of Russian. Novgorod, 1956, 347 p. (in Russian).
4. **Harutyunyan A.** et al. Emotional Field in Psychological Practice. Yer.: Astghik, 2015, 198 p.
5. **Bubnovski G.M.** Osteochondrosis. 2007, 342 p. (in Russian).