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Quality of life of veterans of sports with osteochondrosis of the lumbosacral spine

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Purpose: *to establish the effect of a comprehensive program of physical rehabilitation on the quality of life of wrestlers – veterans of sports with osteochondrosis of the lumbosacral spine in the training motor regime.*

Material & Methods: *34 athletes-veterans at the age of 36–45 years, a kind of struggle – judo and sambo-wrestling took part in the study. Sports qualification of athletes: MS – 25 people, MSIG – 9 people. The test was carried out on the verbal assessment scale of pain, the degree of vertebro-neurological disorders was assessed, the standard of living for the Oswestrovsky questionnaire was determined.*

Results: *after application of the proposed comprehensive physical rehabilitation program for wrestlers – veterans of sports of the MG in 68% of cases, complaints were absent, the degree of vertebro-neurological disorders decreased, the results of the questionnaire on the Oswestrovsky questionnaire showed a statistically significant decrease in complaints of pain in various spheres of life.*

Conclusion: *the positive influence of the developed program of physical rehabilitation on the quality of life of wrestlers – veterans of sports are proved.*

Keywords: *quality of life, wrestlers – veterans of sport, rehabilitation, Oswestrovsky questionnaire.*

Introduction

Osteochondrosis of the spine is a multifactorial disease characterized by a dystrophic lesion of the vertebral motor segments, mainly of their anterior parts, and turns out to be polymorphic neurological syndromes [1]. Osteochondrosis is marked by a systemic lesion of connective tissue, develops against the background of existing congenital or acquired functional, mainly metabolic insufficiency.

Among the most common diseases among veterans of sport, a significant place is occupied by osteochondrosis of the spine, primarily this can be explained by an increase in the volume of loads associated with the intensity of training loads in the past. Osteochondrosis, as a clinical form of the disease in sports veterans, is most often caused by macro- and microtraumas of the spinal tissues, namely when doing sports on the lumbar spine account for 60% of injuries [2; 3].

Until now, there is no generally accepted point of view on the nasological nature of osteochondrosis of the spine. There are terminological difficulties in identifying its clinical manifestations, largely due to their complexity and diversity, as well as the multidisciplinary problem.

In the clinic of lumbosacral spine osteochondrosis, several syndromes are distinguished, the leading one of which is pain syndrome. Pain, as the first sign of the disease and a signal of trouble, causes a whole series of subconscious acts, compensate for violations, and, first of all, biomechanical (motor) order. The initial stage of osteochondrosis has preclinical (quasi-pathetic) signs and active athletes often do not give them attention. In the future, after that I leave the sport, there are complaints about moderate pain in the lower back, arise or intensify with movement, tilt forward, physical activity, long stay in one position. The pain irradiates into the buttocks, thigh, groin and shin. Veterans of sports note the severity, stiffness in the lumbar spine. Disease progresses slowly, degenerative changes appear in new segments of the spine and cover other vertebrae. Periods of process activation are observed more often and are becoming more and more prolonged. Increased pain in this category of patients is often provoked by psychogenic factors, and neurotic syndromes, anxiety and depressive disorders reduce the quality of life of veterans of sports.

A number of authors believe that the accumulated materials on the origin of the osteochondrosis of the spine make it possible to analyze its etiology within the framework of the multifactorial model [4; 5]. At present, this theory is recognized as the most adequate for understanding the origin of chronic human diseases, and also cites a number of new theoretically grounded approaches to prevention and rehabilitation [6]. In recent years, non-pharmacological methods have been increasingly used in the treatment of dystrophic diseases of the spine and their reflex manifestations [7], however, the question of what kind of actions and their combinations is more rational to use depending on the clinical manifestations of osteochondrosis, the proper attention to psychotherapy, and the special significance of psychological factors in the elimination of chronic back pain are still debatable. The use of a complex of physical rehabilitation, including physiotherapy, massage, post-isometric relaxation, physiotherapy, hydrokinetic therapy, traction methods of treatment can significantly improve the functional state of veteran athletes with osteochondrosis of the lumbosacral spine and improve their quality of life. All of the above has determined the relevance and purpose of this work.

Relationship of research with scientific programs, plans, themes. The work was carried out in accordance with priority thematic area No. 76.35 "Medical and Biological Substantiation for Conducting Rehabilitation Measures and Assigning Physical Rehabilitation to Persons of Different Age of

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Purpose of the study: to establish the effect of a comprehensive program of physical rehabilitation on the quality of life of wrestlers – veterans of sports with osteochondrosis of the lumbosacral spine in the training motor regime.

Material and Methods of the research

The study was carried out on the basis of the problem laboratory of the KhSAPC. When organizing the study, the following methods were used: analysis of literary sources; collection of anamnesis, complaints; visual inspection; palpation; verbal assessment of the pain scale; questionnaire on the Oswestrovsky questionnaire; determination of the degree of affection of vertebro-neurological syndromes; methods of mathematical statistics. The data obtained were processed by the method of variational statistics with S. N. Lapach, A. V. Chubenko, P. N. Babich (2000) with the calculation of the arithmetic mean – $\bar{X}$, its error – m, the Student's reliability test-t (according to the Student's formula), the degree of probability – p (according to the tables of D. D. Donskoy).

Under our supervision there were 34 veterans of sports at the age of 36–45 years, a kind of struggle – judo and sambo. Sports qualification of athletes: MS – 25 people, MSID – 9 people.

A differentiated approach to psychotherapy of this category of patients provides for the selection of clinical and psychological effects, depending on the degree of manifestation of psychoemotional disadaptation of veteran athletes. This approach implies the need for psychodiagnostic research before starting treatment. Evaluation of the effectiveness of treatment and recovery measures begin with the definition of the degree of regression of pain syndrome [8]. The simplest test for quantifying the perception of pain is the verbal assessment scale [9]. Assessment of the dynamics of pain by using the percentage scale is as follows: the patient is asked to take the intensity of pain for 100% and indicate how much his personal pain.

Given that the nature and magnitude of pain is a subjective indicator and depends on many factors, in our work we used the definition of the degree of expression of vertebro-neurological syndromes. This survey was conducted with the arrival of veteran athletes for rehabilitation and in dynamics.

Evaluation of the effectiveness of physical rehabilitation involves determining not only the dynamics of clinical syndromes, but also the functionality of a veteran athlete in his daily life. An adequate means of rehabilitation, a valid and reliable tool is the Oswestry Low Back Pain Disability Questionnaire (English), which includes ten sections describing various spheres of the patient's life. In each section, six descriptions of the possible condition of the patient are given, of which the first one is estimated at 0 points, each sixth is 5 points (the patient should not know about the evaluation system of testing). Integral evaluation of the effectiveness of rehabilitation can serve as the nature of the course of the disease, as well as the patient's assessment of the quality of his life [10; 11].

Results of the research and their discussion

All the athletes were divided into two groups – the main group – MG (19 people) and the control group – CG (15 people). Both groups were homogeneous by sex, age and clinical manifestations of the disease. The average age of the disease in the main group was 5,3±1,5 years, in the control group it was 5,2±1,4 years (p>0,05). Periods of exacerbation of the disease were observed 2-3 times a year in both groups.

To the use of rehabilitation measures in wrestlers veterans of both groups, there were complaints of recurrent pain in the lumbar region and the sacrum, which irradiated on the back of the thigh and gluteal region, intensified in the morning after sleep or after heavy physical work.

In determining the magnitude of pain after the verbal assessment scale of pain, MG and CG athletes rated it at 42,16±0,66% and 43,13±0,69%, respectively. Vertebroboneurologic disorders were assessed in the MG at a level of 6,16±0,29 points, in the CG at a level of 6,33±0,31 points. In determining the level for the Oswestrovskiy questionnaire – for the veterans of the CG it was estimated at 32,93±0,54% and in the exhaust gas – 33,68±0,46%.

To solve the set goals and objectives, a comprehensive program of physical rehabilitation for MG athletes was developed, including hydrokinetic therapy, traction, post-isometric relaxation, therapeutic massage. The proposed comprehensive physical rehabilitation program was aimed at reducing pain and alleviating the symptoms of the disease, improving the quality of life of veteran athletes. As fault tolerance, exercises in the water provide changes in the immune, lymphatic, circulatory systems, help in the treatment of neurological disorders, contribute to improving the quality of life. The wrestlers veterans of the CG were engaged in the generally accepted methodology. Considering the fact that athletes have a different rehabilitation process than non-athletes because there is a stage of sports rehabilitation, physical exercises typical for wrestlers (at the beginning of the motor regime – 15–20% of all exercises, and at the end of the motor mode – up to 50–70%). At the same time, physical imitative exercises were the same for MG and CG athletes.

After 21 days of application of the comprehensive physical rehabilitation program, 68% of the veterans of the MG had no complaints, while the CG wrestlers had only 40%. The results of testing on the verbal assessment scale of pain in fighters – veterans of sports MG and CG statistically significant improved, in the exhaust gas t=13,96; p<0,01, in CG t=8,08 p<0,01, a statistically significant decrease in the magnitude of pain in OG was observed when comparing the dynamics of the indices between groups (t=3,19, p<0,05). The dynamics of testing on the verbal assessment scale of pain is shown in Figure 1.

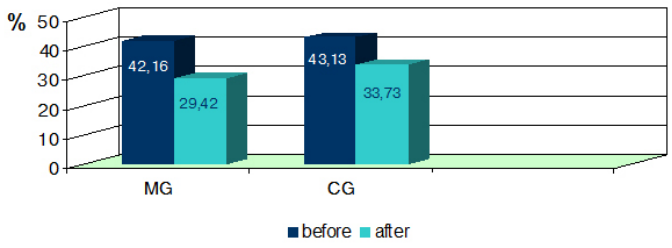

Figure 1. Dynamics of the reduction in the magnitude of pain behind the verbal scoring scale among wrestlers – veterans of sports MG (n=19) and CG (n=15)

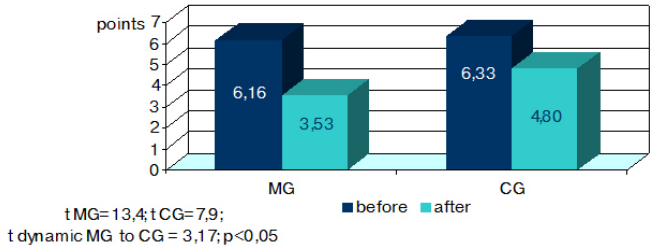

Figure 2. Dynamics of the degree of vertebro-neurological disorders in wrestlers - veterans of sports MG (n=19) and CG (n=15)

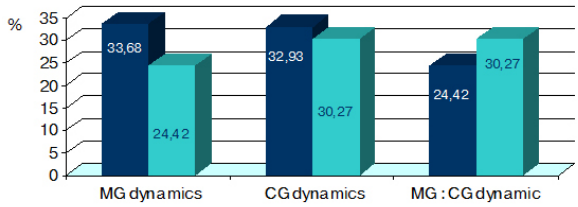

Figure 3. Dynamics of questionnaires on Oswestrovsky questionnaire from wrestlers - veterans of sports MG (n=19) and CG (n=15)

Degree of vertebro-neurological disorders after physical rehabilitation was estimated in the fighters of the MG – by 3,53±0,24 points, in the CG by 4,80±0,32 points (Figure 2). Results of the questionnaire on the Oswestrovsky questionnaire showed a statistically significant decrease in complaints of pain in various spheres of life, for veteran athletes of the MG decreased by 9,26%, in the CG by 2,66%. When comparing the index between the groups, there was a statistically significant dynamics ($t=7,36$; $p<0,05$) (Figure 3).

Thus, after the application of a comprehensive program of physical rehabilitation, the wrestlers veterans of sports of the MG reduced the phenomena of discomfort and psychogenic symptoms, increased activity and physical performance, and improved the quality of life. When comparing the dynamics of the indices between the groups of veterans of sports MG, there were statistically significant changes in comparison with the indices of veterans of the CG.

Conclusions

1. Lead syndrome in wrestlers – veterans of sports with lumbosacral spine osteochondrosis is a pain syndrome that affects the quality of life.

2. It is proved that the application of a comprehensive program of physical rehabilitation, which includes exercises in water, reduced the degree of vertebro-neurological disorders, complaints in various spheres of life, improved the quality of life of wrestlers – veterans of sports.

3. An integral assessment of the effectiveness of physical rehabilitation can be the use of questionnaires on the Oswestrovsky questionnaire and the definition of the degree of affection of vertebro-neurological syndromes.

Prospects for further research are related to the assessment of the dynamics of physical performance in wrestlers – veterans of sports with osteochondrosis of the lumbosacral spine after the application of a comprehensive program of physical rehabilitation in the training motor regime.

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