



Increase of Working Capacity in the Competitive Period of Skiers



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Abstract

It is proved that uncontrolled increase in volume and intensity of loads, as a rule, does not lead to achievement of higher results, leads to the development of overtraining and overstrain of athletes. The goal is to study the influence of active recreation on the recovery processes and increase the efficiency of young skiers-racers in the competitive period. The research hypothesis consists in the assumption that the use of active recreation as a means of recovery for young skiers-racers will significantly accelerate the recovery processes, and, consequently, increase their efficiency. The base of experimental and experimental work: experimental and experimental work was carried out on the basis of the Altai State University of Barnaul. 30 skiers-racers took part in the experimental work, 15 of them made up the experimental group, 15 - the control group. Terms of experimental work: 2016-2017. To determine the performance of skiers-racers at the initial stage of the experiment and at its end in the experimental group and the control was applied Harvard step-test. The analysis of the dynamics of the indicator of the results of young skiers-riders of the experimental and control groups at the ascertaining and control stages showed the following: in the experimental group of subjects with an assessment, the average working capacity decreased by one third of the subjects with the indicator the average operability at the control stage was 27%; skiers-racers with an excellent recovery rate increased by a third and amounted to about 70%. In the control group, the following changes occurred: 40% of skiers-racers showed excellent performance; the number of subjects with an indicator of average performance was not revealed, the indicator of good performance decreased by about 10%. The means of restoration used determine the mode and the correct combination of loads and rest at all stages of the training of athletes (rational planning of the training process, the correct construction of a separate training session using means to relieve fatigue, varying rest intervals between individual exercises and training sessions, the development of a planning system, physical exercises in order to accelerate the restoration of efficiency.

Keywords: Skiers-racers; Competition period; Means of restoration; Working capacity; Training process; Physical exercises

Introduction

With the current level of physical activity, the nervous tension of sports training and competitions, the restoration and preservation of physical fitness of athletes is an important part of the training process. Positive impact on the adaptive mechanisms of training athletes significantly affects the willingness to participate in competitions, the growth of skill and results. Due to the involvement of a large number of muscles in the work, the functional state of the cardiovascular system is improved, i.e. increases the ability of the heart and circulatory system to deliver blood and nutrients to the muscles that work. With regular training, conditions are created for the formation of a strong oxygen-transport system, which is capable of maintaining an intense aerobic load [1].

It is proved that uncontrolled increase in volume and intensity of loads, as a rule, does not lead to achievement of

higher results, leads to the development of overtraining and overstrain of athletes. Skiers, who want to achieve the highest possible performance, often train very intensively. They underestimate the significance of the intensity of work and too often conduct excessively intensive training sessions in which high concentrations of lactate, which adversely affect their performance, are performed [1].

Analysis of sports training confirms the relevance of the recommendations of many scientific teams and sports medicine specialists about the need to find new approaches that increase the resistance of the body to fatigue, which contribute to improving efficiency and speeding up the recovery of athletes. Therefore, we can fully explain the increased interest in using various means and methods of restoration for this purpose [2,3], the construction of a training process aimed at developing the special endurance of skiers-racers [4,5].

To date, there are a large number of recovery tools, which are divided into three groups: pedagogical, medical and biological and psychological. All of them play an important role in the preparation of an athlete of any level of training. For students involved in skiing, a significant impact is the mental load associated with the adaptation to the conditions of training activities. The combination of educational and sports activities leads to significant stresses on the functional systems of the organism, the state of which is the limiting factor in determining the volume and intensity of physical exertion for student athletes [5,6]. Researchers note the importance of evaluating the optimal mental tension of high-qualified skiers in competitive competition [7,8].

The choice of means of recovery is determined by the age, qualifications, individual characteristics of the athletes, the training phase, and the tasks of the training process, the nature and features of the construction of training loads. When considering the management of the training process, an important role is played by the availability of model characteristics of various aspects of preparedness at all stages of training athletes. Comparison of the indicators of competitive activity, training parameters and individual characteristics of athletes with model characteristics makes it possible to evaluate the athlete's special preparedness, determine the directions and reserves for the growth of his skill, and promptly and accurately carry out correction of the training process [9].

The means of restoration used determine the mode and the correct combination of loads and rest at all stages of long-term training of athletes (rational planning of the training process, the correct construction of a separate training session using means for relieving fatigue, varying the rest intervals between individual exercises and training sessions, developing a planning system, developing special physical exercises in order to accelerate the restoration of working capacity). The goal is to study the influence of active recreation on the recovery processes and increase the efficiency of young skiers-racers in the competitive period.

Task

To determine the effectiveness of using active recreation for the processes of restoration and improving the performance of skiers-riders of Altai State University in Barnaul in the competitive period. The research hypothesis consists in the assumption that the use of active recreation as a means of recovery for young skiers-racers will significantly accelerate the recovery processes, and, consequently, increase their efficiency. The base of experimental and experimental work: experimental and experimental work was carried out on the basis of the Altai State University of Barnaul. 30 skiers-racers (18-19 years) took part in the experimental work, 15 of which made up the experimental group, 15 - the control group. Terms of experimental work: 2016-2017.

Methods of Research and Results: To study the Degree of Reduction

At the ascertaining stage of the experiment, before the start in the experimental and control groups, a passive day of rest was included in the training process of the pre-competitive training of the subjects, at the control stage - in the experimental group, a training session was held for restoring nature (active rest), in the control group - a passive day of rest. To determine the degree of recovery, an orthostatic test was suggested to the examinee - this test has several modifications based on the hemodynamic Schölong test (measurement of the heart rate at rest-lying down, then standing). When performing an orthostatic test under these conditions (pulse counting and lying down after a slow rise), it is considered that the difference in pulse beat is less than 16 indicates a good recovery, with a difference of 16-18 strokes, the recovery processes are satisfactory, and if the heart rate has increased by 18 beats / min and more - this indicates fatigue and not complete recovery [10]. After the orthostatic test was carried out at the ascertaining stage, the following results were obtained.

In the experimental group, 27% of the subjects had a good recovery index, 13% - satisfactory, and 60% of the subjects experienced fatigue. 27% of the subjects in the control group had a good recovery, 33% satisfactory, and 39% experienced fatigue. After the orthostatic test was performed, the following results were obtained in the control phase. 80% of the subjects from the experimental group had a good recovery index, 13% - satisfactory, and 7% of subjects experienced fatigue. Subjects of the control group had good recovery in 40% of cases, and fatigue was observed in 60% of the subjects.

The obtained results indicate that at the control stage of the experiment the following changes occurred in the experimental group: subjects with good recovery increased by 53%; changes in the state of satisfactory recovery - not identified; subjects in the state of fatigue decreased by 53%. In the control group of subjects with the index, good recovery increased by 13%, with a satisfactory condition decreased by 33%, with the state of fatigue increased by 21%. Comparing the indices of the orthostatic test of the experimental and control groups at the control stage of the experiment, we can draw the following conclusions: in the experimental group, significant changes occurred. Subjects with good recovery in the experimental group are 40% larger than those with this index in the control group.

As a result, the following features were revealed. Subjects with indices of poor working capacity and below the average were not detected, 33% of the subjects of the experimental group had indicators of an average degree of efficiency, 40% had good performance, and 27% of subjects had excellent performance indicators; The same parameters were used by the subjects of the control group. The control stage of the experiment showed the following: in the experimental group, subjects with weak,

below average and average performance were not detected, 27% of the subjects had good performance indicators, and 73% of the subjects had excellent performance indicators. In the control group, subjects with poor performance and below the average were not detected, 33% of subjects had indicators of average performance, 27% good performance, and 40% of subjects had excellent performance. Further, a comparative analysis of the results of the IHST of young skiers-racers of the experimental and control groups at the ascertaining and control stages of the experiment was carried out.

The Discussion of the Results

The analysis of the dynamics of the indicator of the results of young skiers-racers of the experimental and control groups at the ascertaining and control stages showed the following: in the experimental group of subjects with the assessment, the average working capacity decreased by 33%, the subjects with the average performance at the control stage became 27%, which is 13% the indicator obtained at the ascertaining stage of the experiment; skiers with racers excellent recovery increased by 33% and amounted to 73%. In the control group, the following changes occurred: 40% of skiers-racers showed excellent performance; the number of subjects with an indicator of average performance was not revealed, the indicator of good performance decreased by 13%.

Correct use of means of restoration of working capacity is possible only at the decision of following questions:

- a) The definition of the link of the functional systems of the body, carrying the main load and limiting the capacity for work, as well as taking into account the heterochronicity of the course of recovery processes that are stimulated with the means of recovery used;
- b) Development and selection of an optimal technology for the use of individual components of the complex, recovery tools and tactics of their application in specific cases;
- c) Selection of objective methods for monitoring the effectiveness of the complexes of means of restoration used and improving the organizational forms of their implementation in the system of sports training.

Conclusion

Approaches to the organization of recovery measures and optimization of impacts from the position of the systemic principle allow unifying the technique of using a variety of restorative means to a great extent, individualize the parameters of environmental factors for their use in sports, avoid adverse consequences of procedures, and rationally combine sports with

recovery cycles. Based on the analysis of the results of the study, we made the following conclusions, which correlate with the conclusions:

- a) The combination of training and sports activities during the training of skiers in ranks in higher educational institutions presupposes the introduction of changes in the structure and content of the training process, which should be aimed at restoring the psychophysiological reactions of the organism;
- b) The use in sports training of skiers of such psychocorrectional techniques as respiratory gymnastics and inspired sleep-rest, leads to a positive dynamics of psychophysiological indicators;
- c) Inclusion in the structure of the educational process of model-competitive and contrasting microcycles contributes to increasing the effectiveness of competitive training of skiers-racers.

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