DEVELOPMENT OF PRINCIPLES OF INJURY PREVENTION ON THE EXAMPLE OF THE SPORTS CONTINGENT

Annotation. Today, 20% of all diagnosed injuries are sports-related, and the estimated cost of recovery for these athletes is more than €2.4 billion [4]. Recently, evidence has emerged that the incidence of sports injuries and related difficulties tends to increase [2,5]. From a global perspective, the epidemiology of sports injuries is a cause for concern, as while most population indicators are based on data that are available in developed countries, little is known about sports injuries in third world countries. In general, in the analysis of the literature on the study of the problems and epidemiology of sports injuries, it was found that the main causes of sports injuries are the irrational organization of training sessions, training camps and competitive activities, somewhat less often the incorrect methodology of competitions, the unsatisfactory condition of training bases, low-quality equipment and inventory, and others [1,3]. That is why training activities should be carried out to master the basic techniques and fundamentally important skills of athletes. In the process of this activity, the athlete will be able not only to selectively harden the body, but also to train individual muscle groups, the osteoarticular apparatus, with the improvement of coordination and motor skills. This, in turn, will ensure the prevention of sports injuries.

Purpose of the study: to develop basic principles of injury prevention on the example of people involved in sports.

Materials and methods of research. To develop knee injury prevention programs, a study was conducted among 78 basketball athletes, divided into two groups: the control group (n=36; 46.1%) consisted of athletes who underwent a planned training process without a prevention program; the study group (n=42; 53.9%) underwent the same training program, but with the inclusion of preventive measures. Anthropometric examinations were carried out among all athletes measurements, studied body composition with the analysis of muscle mass in relation to total body weight, muscle and musculature development according to standard methods. Dynamometric studies of the extensor muscles of the lower extremities were carried out.
Results of the study: Anthropometric studies showed that the groups were comparable in anthropometric parameters. The average height of athletes in the study group was 187.3±4.6 cm, weight 76.7±8.5 kg, hip circumference 41.5±3.3 cm, shin circumference 37.4±2.7 cm. The same indicators in the control group were height - 177.0±8.9 cm, weight 75.3±7.4 kg, hip circumference 48.3±2.7 cm, lower leg circumference 39.1±1.7 cm, respectively.

Assessment of body composition in the study group in the lower extremities showed that their muscle mass before the prophylaxis program was 9.78±2.2 kg in the right leg and 9.62±2.4 kg in the left leg. After the prevention program, muscle mass increased significantly and amounted to 11.30±1.9 kg in the right leg and 11.0±1.6 kg in the left leg. In the control group, the parameters of muscle mass at the time of inclusion of athletes in the study did not differ significantly and amounted to 9.21±1.1 kg in the right leg and 8.92±1.5 kg in the left leg. In the control group, the preventive program was not carried out, the training process was carried out in a standard mode, so the muscle mass did not change significantly, amounting: right leg - 9.17±1.2 kg, left leg - 8.71±1.3 kg. When evaluating the results of dynamometry in the study group with the inclusion of the prevention program, the strength of the muscles in the lower extremities at the time of inclusion of athletes in the study was 49.2±6.6 kg, and by the end of the study, when assessing the effectiveness of the applied preventive program, it significantly increased, reaching 52.4±7.9 kg, statistically different from the parameters of the control group - up to 49.7±6.2 kg and 50.1±5.7 kg after the inclusion of the prevention program.

Conclusions: The proposed prevention program, which includes various types of exercises with fitball, as well as strength exercises for the muscle group of the back, lower limbs, statodynamics of the knee joint, showed that training the muscles of various groups, especially the lower limbs, contributes to the development of muscle memory, influencing the preservation of muscle tone and its increase through the oxidative component, which is formed during intensive sports activities, allowing you to reduce the risk trauma development.

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