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OPTIMIZATION OF THE TRAINING PROCESS OF YOUNG FOOTBALL PLAYERS IN THE PREPARATION PERIOD

Abstract: This article defines the optimal proportions of the training microclimate of young players and the development of special training sessions, as well as the optimal terms of training during the training period of young players and the processes of their exhaustion and recovery, widely covered suggestions and recommendations.

Key words: Psychophysiological condition, hygiene, physical training, training process, training process, functional state, technical training, psychophysiological training.

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Introduction

On a global scale, football is not just a sport game. Football has acquired a huge social significance. The results of competitions at the highest sports level affect not only the mood of the masses, but also directly on their work activity, affect the prestige of nations and states. Apparently, this is precisely why sport has attracted more and more attention of statesmen, researchers and scientists in recent years. Currently, scientific research in the field of sports has expanded significantly. Huge practical and theoretical material has been accumulated in the field of football players training methods, in various areas of sports pedagogy, psychology, morphology and biochemistry, physiology and biomechanics, in sports medicine. In various countries of the world, especially developed in terms of football, significant experience has been accumulated in training top-class football players.

Relevance of the research.

Further intensification of the training of athletes and a significant increase in the level of training and competitive loads in modern sports requires the development and implementation of new technologies that ensure the optimization of the training process with the widespread use of means of recovery and

improving the performance of athletes Yu.D. Zheleznyak (2), A.P. Laptev (5), L.P. Matveev (6), V.N. Platonov (7) and others.

Modern trends in the development of football cause significant physical, neuropsychic and emotional stress, which place high demands on the body of football players. Therefore, the problem of optimizing the training process of football players is now of particular relevance. This is of particular importance in the preparation of young football players V.A. Vyzhgin (1), A.N. Romanenko (8), A.A. Suchilin (9), S.Yu. Tyulenkov (10) and others/.

In domestic and foreign literature, there are actually no scientific data and practical recommendations on the use of special complexes to optimize the training process of young football players in the preparatory period. However, this problem is of great theoretical and practical importance for the preparation of a full-fledged reserve in Russian football. Our experimental studies were devoted to the development of this topical problem.

The purpose of the study is to develop and experimentally test training programs and special complexes of rehabilitation means to optimize the training process of young football players (13-15 years old) in the preparatory period (general preparatory stage).

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Scientific research hypothesis.

It was assumed that the use of the developed training programs and special complexes of rehabilitation means will optimize the training process of young football players (13-15 years old) in the preparatory period due to the intensification of recovery processes, as well as a positive effect on the functional state and performance of athletes.

Subject of study. The system of training and rehabilitation means in the training process of young football players in the preparatory period.

Object of study. Development and application of special complexes to optimize the training process of young football players in the preparatory period.

Research objectives:

To form and test complexes of psychological and pedagogical methods for studying the dynamics of psychophysiological functions in young football players.

To study the daily dynamics of psychophysiological functions in order to determine the optimal periods for training and draw up a rational daily regimen for young football players.

Develop and test training programs for various weekly microcycles of the preparatory period.

To study the dynamics of the processes of fatigue and recovery in young football players in the developed weekly microcycles.

To develop and scientifically substantiate special complexes for optimizing the training process of young football players in the preparatory period.

To determine the effectiveness and features of the use of the developed special complexes of restorative agents for various weekly microcycles.

To develop scientific and practical recommendations on the use of special complexes to optimize the training process of young football players in the preparatory period.

The scientific novelty of the research lies in the fact that as a result of pedagogical experiments at the general preparatory stage of the preparatory period of young football players, new scientific data were obtained in the following areas:

three sets of research methods were compiled and tested to study the dynamics of the most important psychophysiological functions for football players, characterizing the speed of response, speed-strength qualities, the maximum strength of various muscle groups, the functions of the visual analyzer, the functions of attention;

based on the study of the daily dynamics of 9 indicators of psychophysiological functions of football players, the most optimal periods for morning, afternoon and evening trainings were established, and a rational daily regimen of football players was compiled;

experimental training programs for the retracting, basic and shock microcycles of the general

preparatory stage of the preparatory period were formed and tested;

in the course of observations with repeated testing, the features of the development of the processes of fatigue and recovery in football players in three developed weekly microcycles without the use of restorative agents were revealed;

in accordance with the obtained experimental data on the processes of fatigue and recovery in football players in various weekly microcycles, three special complexes have been developed,

including pedagogical, hygienic, biomedical and psychological means of restoring and improving working capacity;

as a result of comparative consecutive and parallel pedagogical experiments, the effectiveness of the use of three developed special complexes in various weekly microcycles and general preparatory basic mesocycle was established;

It has been established that the systematic application of the proposed complexes of research methods makes it possible to increase the efficiency of pedagogical control over the dynamics of the functional state and sports performance of young football players.

The theoretical significance of the research is due to the fact that as a result of the research conducted in the preparatory period of young football players, the following were scientifically substantiated for the first time:

optimal periods for morning, afternoon and evening training based on experimental data on the daily dynamics of psychophysiological functions in young football players;

pedagogical aspects of the formation of special complexes to optimize the training process based on the dynamics of the processes of fatigue and recovery in young football players in various weekly microcycles;

- the structure and content of the developed special complexes, including pedagogical, hygienic, biomedical and psychological means of restoring and improving efficiency; pedagogical features of the application of the proposed complexes of research methods to improve the effectiveness of pedagogical control.

The practical significance of the research lies in the fact that the main provisions and conclusions of the dissertation can be used in coaching practice at the general preparatory stage of the preparatory period for young football players in the following areas:

experimental data on the daily dynamics of the most important 9 indicators of psychophysiological functions for football players can be used to select the most optimal periods for morning, afternoon and evening training sessions and plan various training loads during the day;

developed and tested experimental programs for retracting, basic and shock weekly microcycles can be

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used to improve the effectiveness of the training process of young football players;

1. The main directions for optimizing the training of athletes

2. As you know, the modern system of training an athlete includes three subsystems: the system of competitions; sports training system; a system of factors that complement training and competition and optimize their effect. Professor L.P. Matveev emphasizes (6) that only the totality of all the listed components, their combination into an integral system, can ensure the growth of sports achievements and the overall positive effect of sports activities.

3. In the book "The General Theory of Sports" (6), Professor L.P. Matveev especially notes that "the system of additional factors of sports training (complementing training and competitive activities) becomes more and more detailed and diverse in content in the process of sports development. It includes many used in connection with sports activities, means and conditions for optimizing sports capacity that favorably affect the course of recovery processes after sports loads and (or) contribute to an increase in sports performance.

4. In particular, they include such as: regulated use of environmental factors (atmospheric and water, solar radiation), specialized nutrition and pharmacological additives to it (excluding, of course, doping and other inhumane drugs), specialized types of massage, bath and balneological procedures, psychohygienic effects, modification of the general mode of life in relation to the requirements and conditions of sports activities, etc. It is clear that factors of this kind are included in the system of sports training insofar as they make a certain contribution to the acquisition, improvement of the level or (at least) the preservation of the athlete's preparedness for sports achievement" (p. 22).

5. The importance of various means and methods that optimize the training of athletes is increasing all the time. This is due to the main trends in the development of world amateur and professional sports, which are as follows: sharply increasing competition in all sports, a steady and significant increase in training and competitive loads, expanding the age range of athletes, holding competitions in difficult environmental conditions (high or low external temperatures environment, mountain climate, rapid change of climatic and time zones, etc.) [2, 6, 7].

6. In the system of factors that optimize the training of athletes, the main place is occupied by various means and methods of restoring and improving performance.

7. Deputy Chairman of the Headquarters of the Olympic Training of Russian Athletes A.I. Kolesov (4) among the fundamental principles of modern training of athletes especially highlights the following: bringing into a single functional

mechanism all aspects of training - organizational factors, training and competitive processes, recovery systems, scientific, medical, information and logistics (p.12).

8. It has been established that the recovery processes that develop in the body of athletes are the most important psychophysiological processes. The main content of these processes lies in the fact that after training loads there are reverse changes in the activity of those functional systems that ensured the performance of this physical work. All these changes during this period are usually united by the concept of "recovery".

9. Therefore, the optimal combination of fatigue and recovery processes is the physiological basis for the constant and long-term adaptation of the body to physical and sports loads. In this regard, the use of various restorative means and methods after training and competitive loads is considered as an integral part of the training of athletes [1, 3, 4, 7, 8, 10]. The results of scientific research show that the development and maintenance of the performance of athletes at an optimal level under modern training and competitive loads is possible only if, in parallel with great physical and psycho-emotional impacts, a complex of rehabilitation measures is carried out in a timely and purposeful manner. Therefore, their rational and purposeful impact on the course of recovery processes after loads of different bioenergetic characteristics should be considered as one of the important elements of managing the effectiveness of the entire training process.

10. In this regard, Professor V.L. Karpman in the textbook "Sports Medicine" (3) rightly emphasizes: "The ability of a coach to manage the states of fatigue and recovery largely determines the culture of training and its effectiveness. The accumulation of fatigue (without appropriate recovery) can lead to the development of overwork and overtraining, decreased performance, cessation of growth in sports results" (p. 221).

2. Features of optimization of the training process of football players

Based on the analysis of literature data, modern trends in the development of world football were identified, which are characterized by the following main features presented in the works of well-known experts.

Professor A.A. Suchilin in his monograph "Theoretical and methodological foundations for the preparation of a reserve for professional football" (9) identifies the following main trends in the development of world football.

All the time the intensity of the game is increasing, i.e. the number of game actions of a football player per unit of time increases. An uncompromising struggle is waged in conditions of acute shortage of time and limited space.

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Reduced time to transition from attack to defense and vice versa. Teams that are able to reorganize their attacking and defensive formations more quickly and flexibly gain an advantage over the opponent in game actions.

The effectiveness of the attack depends on the speed and accuracy of the execution of technical and tactical techniques, which requires high-level players of individual and group actions. One of the modern means of overcoming a saturated enemy defense is a counterattack.

Modern defense in football is carried out by a significant number of players. It includes defenders, midfielders and attackers. This requires a high level of organization of the game and clear interaction between the players.

The importance of versatile players who are able to effectively perform both attacking and defensive functions in certain phases of the game is growing sharply. At the same time, the ability to successfully organize and complete attacks becomes a prerequisite for defenders.

A necessary condition for the success of game actions is the game without the ball in all parts of the field, which requires a high level of physical and functional readiness of the players.

The fighting for the ball is getting tougher. Therefore, the importance of athletic training of football players is increasing. The best players in world football demonstrate a high level of performance skills. This is ensured, first of all, due to a variety of technical equipment, skillful tactical actions, and independence. Achieving victory in football matches depends largely on the level of moral and volitional qualities.

The number of games and football tournaments is increasing, many of which are very responsible and, as a rule, take place in a tense struggle. Football players are sometimes forced to make tedious journeys to the competition site, associated with a sharp change in climatic and geographical zones and standard time. All this requires the wide use of various pedagogical, hygienic and other means aimed at increasing the effectiveness of the educational and training process" (pp. 47-48).

Professor S.Yu.Tyulenkov in the article "The structure of technical and tactical indicators of the game and the effectiveness of competitive activity in football" (10), based on the analysis of the technical and tactical indicators of the game activity of football players in major international tournaments of recent years, characterizes the main trends in the development of world football as follows.

"The increase in the intensity of the game determines the growth of the importance of each game episode, which places ever higher demands on the physical condition of the players. Every year the speed and density of the execution of techniques will increase, which necessitates the widespread use in the

training process and the improvement of the methodology for using speed-strength means. This fact also determines the increase in the number of games that require maximum mobilization of physical and moral-volitional qualities, which in turn determines the need to use a wide range of modern means of rehabilitation and in-depth research on this issue.

This trend necessitates a revision of a number of provisions in the training of children, where the role of an athlete is determined already at the stage of initial specialization, which naturally limits his technical and tactical arsenal. Here we should say about the need to develop a wide range of technical and tactical exercises, taking into account their impact on the physical qualities and functional state of football players of different ages and qualifications.

Development of special complexes of means for restoring and improving the performance of football players

To optimize the training process of football players at the preparatory stage, special complexes were developed, which were aimed mainly at the fastest recovery and improving the performance of athletes. These complexes included pedagogical, hygienic, biomedical and psychological means of restoring and improving the sports performance of football players.

Pedagogical means of recovery have found their application in the rational organization and programming of the training process with the provision of optimal ratios of various types and orientation of training loads; a rational combination of training loads and rest, taking into account the individual characteristics of the players; in the expedient construction of weekly microcycles, a training day and individual training sessions, taking into account the necessary variability of training loads; creating a positive emotional background during training sessions and active recreation of athletes.

At the same time, in the process of training, exercises for active and passive rest were systematically performed in the intervals between training loads. At the same time, relaxation exercises were constantly performed. After training, in order to deploy the recovery processes as quickly as possible, running at a low pace and a set of special exercises were used for 10-15 minutes.

Hygiene products included basic and additional. Basic hygiene products: optimal daily regimen, rational nutrition, personal hygiene, hardening, mental hygiene. Additional hygienic restorative products were used in the form of complexes, for which the most effective and currently available restorative means for coaches and athletes were specially selected, which do not require expensive and complex

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equipment and can be used in various training conditions for athletes.

Taking into account the indicated provisions, the following hygienic restorative means were included in the complexes: hydroprocedures - warm shower (TD), hot shower (HD), contrast shower (KD), coniferous baths (HB), restorative swimming SVP; various types of sports massage - general restorative massage (OBM), short-term restorative massage (KVM), private restorative massage (PWM), hydromassage (GM), self-massage (SM), preliminary warm-up massage (PM); various methods of taking bath procedures: a steam bath (BP), a short-term bath (SB), a bath with contrasting water procedures (BKVG1). When performing complexes of hygiene products, the main provisions of the methods for using various restorative agents, proposed by Professor A.A. Biryukov. After daytime training: I option - after a hot shower (5-7 minutes) at a water temperature of +38°C and above, a session of short-term restorative massage (8-12 minutes) - HD, KVM; Option 2 - after a short-term dry-air bath (3-5 minutes) at an air temperature of +90-100 ° C, a session of short-term restorative massage (10-15 minutes) - KB, KVM; Option 3 - after a contrast shower, a session of short-term restorative massage - KD, KVM; Option 4 - after a hot shower, water temperature + 38 ° C and above, a hydromassage session (5-8 minutes) - HD, GM.

After evening workouts: Option I - after a hot shower (5-10 min) a session of short-term restorative massage (5-10 min) - HD, KVM; Option 2 - after a short-term dry-air bath (two visits with intervals of 5-10 minutes between them) a session of short-term restorative massage (7-12 minutes) - CB, KVM; Option 3 - after a contrast shower, a session of short-term restorative massage - KD, KVM.

On the day of active rest (1.5 hours after a light breakfast), sports games were held (20-30 minutes). After that, a bath procedure with steaming and the 1st session of restorative massage (general) - BP, OVM. In the afternoon (interval 6-8 hours) the 2nd session of restorative massage (private) - CVM was held.

Before morning and evening workouts, athletes always performed preliminary self-massage (PSM).

Medico-biological means of recovery were used in the form of taking a combined and optimally balanced preparation "Polivit" (USA.). Based on the analysis of the food rations of football players, it was found that they experience a certain deficiency in various vitamins and minerals. In this regard, to correct the deficiency of vitamins and minerals in diets and to intensify recovery processes, as well as increase sports performance, a combined and optimally balanced preparation "Polivit", developed in the USA, was used. Each tablet of the preparation contains 12 vitamins and 13 mineral substances: vitamin A (incl.

beta-carotene) - 5000 IU, vitamin C - 60 mg, vitamin W - 1.5 mg, vitamin - 1.7 mg, nicotinamide -

20 mg, vitamin D - 400 IU, vitamin E - 30 mg, vitamin B - 2 mg, folic acid - 400 mcg, vitamin Bm - 6 mcg, biotin - 30 mg, pantothenic acid - 10 mg, iron (fumarate) - 18 mg, calcium (phosphate) - 130 mg, phosphorus (calcium phosphate) - 100 mg, iodine (potassium iodide) - 150 mcg, magnesium (oxide) - 100 mg, zinc (sulfate) - 15 mg, copper (sulfate) - 2 mg, chromium - 10 mcg, selenium - 10 mcg, molybdenum -10 mcg, manganese (sulfate) - 2.5 mg, potassium (chloride) - 37.5 mg, chloride (potassium) - 34 mg. This complete vitamin-mineral complex is recommended for use with increased physical and neuropsychic stress. Dosage - 1 tablet per day.

Psychological means of recovery were systematically used by the coaching staff in the process of training football players. Along with this, the players used psychomuscular training - PMT (calming part).

The complex use of pedagogical, hygienic, biomedical and pedagogical means of recovery and improvement of working capacity was carried out taking into account the age-related anatomical and physiological characteristics of young football players, the characteristics of the training process, and also on the basis of the recommendations of a number of specialists.

CONCLUSION

I. The current level of training and competitive loads in the preparation of young football players requires the wide use of various means and methods to increase the effectiveness of the training process. However, the literature does not provide scientific data and practical recommendations on the use of special complexes to optimize the training process of young football players (13-15 years old) in the preparatory period.

2. In order to develop means for optimizing the training process and for studying the processes of fatigue and recovery in young football players, three sets of psychological and pedagogical methods were developed and tested to study the dynamics

3. The features of the daily dynamics of nine indicators of psychophysiological functions in young football players were revealed. Based on these data, the most optimal periods for morning (7.30-8.20), afternoon (2.00-12.30), evening (18.00-20.00) trainings were determined, and the optimal daily regimen for young football players was compiled.

4. The daily range of changes in the most important indicators of psychophysiological functions for coaching practice has been established: the time of a simple and complex motor reaction, respectively, - 11% and 14%, the height of the jump - 11%, the maximum strength of the muscles of the hand - 11%, the maximum strength of the back muscles - 10% , the maximum frequency of movements - 10%, the indicators of tremor of the muscles of the hands in

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static and dynamic modes, respectively - 10% and 12%.

5. Experimental training programs for retracting, basic and shock microcycles at the general preparatory stage of the preparatory period have been developed and tested.

As a result of complex studies with repeated testing, regular phase changes in the processes of

fatigue and recovery in young football players in the developed weekly microcycles (retracting, basic, shock) were established. These changes were closely related to the direction and magnitude of training loads. In the last days of weekly microcycles and especially in the impact microcycle of football players

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