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Methods Of Developing Psycho-Physiological Characteristics Of Young Football Players

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Abstract.

This research paper presents various aspects of targeted functional training of young football players. The structural features of the functional readiness of young football players are described. Methodical approaches to the organization of differentiated functional training of young football players depending on the game specialization in different periods of the training macrocycle based on the use of additional ergogenic means are given. The main directions and substantiation of the technology of general psycho-functional training are presented, ways of increasing the reliability of target motor actions of young football players based on biofeedback are shown.

Keywords: *age features, fatigue, functional state, young football players, playing role, psycho-physiological characteristics, psychological properties of personality.*

Introduction.

At the present stage of development, sports training and competitive activity, including in football, are characterized by an increase in physical and nervous loads. Over the past decade, the intensity and density of tournaments has increased, the number of games that require the full mobilization of the functional capabilities of athletes has increased. Of particular note is the increase in the role and effectiveness of those collective methods of playing the game, which are based on high functional readiness and high requirements for technical and tactical actions in conditions of forceful opposition and lack of time [1-5].

One of the key issues is the determination of the optimal levels and the appropriate ratio of different components of functional readiness - the issue of its structure. This is determined by the understanding that there is no need to strive in the process of preparation to maximize the development of all aspects of preparedness. Optimization can be based on taking into account the specifics of the requirements of the game (with the obligatory consideration of game specialization) and individual characteristics, the predisposition of football players to use certain aspects of preparedness.

Functional training is a systematic, multifactorial process of managing the individual biological reserves of the human body using various means and methods of physical, technical, tactical and mental training. The purpose of functional training in sports is to expand the boundaries of functional adaptation, which allows, without harm to health, to endure increased volumes of training and competitive loads, while achieving high sportsmanship.
Educational work with young football players is generally subordinated to a common ultimate goal: the education of a harmoniously developed person, an active and conscious person with spiritual wealth, moral purity and physical perfection.

The achievement of any educational goal, as a rule, is associated with the solution of three closely related tasks:
- formation of moral consciousness;
- formation of behavior: skills, habits of moral and disciplined behavior, corresponding character traits;
- the formation of personal qualities: strong-willed (courage, perseverance, determination), moral (honesty, goodwill, modesty), labor (hard work, conscientiousness, diligence).

These tasks can be briefly expressed as follows: in order to achieve the educational goal, the coach must ensure that the pupil knows, knows how, wants and can act properly [6-10].
The main principles characterizing the conditions in which the educational process should take place:
- the connection of education with real life and work;
- education in a team;
- unity of requirements and educational influences on the part of all adults in contact with the child;
- a combination of exactingness with respect for the personality of the pupil;
- taking into account the individual characteristics of each;
- systematic and continuous educational process;
- the unity of words and deeds in the life of a sports group;
- cohesion of the team, its focus on sports and moral ideals.

The growing role of physical culture as a means of educating young athletes causes an increase in the requirements for educational work in sports schools. At the same time, an important condition for successful work with young athletes is the unity of educational influences aimed at shaping the personality of a young athlete - the result of the complex influence of factors in the social system of education, including: family, educational school, team of teachers.
The main goal of the state policy in the field of physical culture and sports is the improvement of the nation, the formation of a healthy lifestyle of the population, the harmonious upbringing of a healthy, physically strong generation.
The education of young athletes in the Uzbekistan is a process of purposeful and organized influence of coaches, representatives of sports schools, leaders of sports in the regions and public organizations on the consciousness, feelings, will of athletes and sports teams in order to develop their high emotional-volitional and moral-political qualities that ensure successful performance in sports competitions.
At the present stage of development of sports, the role of education is due to the need to achieve two interrelated goals:
a) the development of the qualities of a citizen's personality that meet the national-state interests of Uzbekistan;
b) training of a professional athlete who is capable of selflessly in the most difficult conditions of a competitive environment to wage a sports struggle for victory in the name of the Motherland.
In this regard, the main goal of education is to form high moral qualities among those involved, devotion to Russia, a sense of collectivism, discipline and hard work; in the development of personality traits of a citizen, an athlete that meet the national-state interests of Russia; in the formation of moral and mental readiness to actively compete in any extreme conditions of a sports duel in the name of the
Motherland, fidelity to sports duty, pride and responsibility for belonging to one's school, city.
An important role in the moral education of young athletes is directly played by sports activities, which provide great opportunities for the education of all these qualities.
The distribution of time for the main sections of training by years of study occurs in accordance with the specific tasks set at each level of complexity of the multi-year training program. The basis for planning loads in the annual cycle is the timing of the competition (training, control; qualifying, main).
Sports competitions are an integral part of the training process, their nature and timing are planned in advance. The main documents for planning and holding competitions are the calendar plan and regulations on competitions. The calendar plan of the competitions is compiled by the organization responsible for their

holding. It is approved in advance and sent to the field. Calendar plans of competitions can be perspective and annual. Timely receipt of the general calendar plan allows grassroots organizations to properly plan their work, draw up their calendar plans, and successfully prepare for participation in competitions. The calendar plan should be stable and traditional. This will allow coaches and athletes to improve the training process over a number of years and achieve better results during the main competitions.

Methods of research.

Competitions should be planned in such a way that, in terms of their focus and degree of difficulty, they correspond to the tasks assigned to the athlete at this stage of many years of sports training [11-15]. It is advisable to allow young athletes to participate in competitions only in cases where they are able to achieve certain sports results in terms of their level of preparedness. Depending on the stage of long-term training, the role of competitive activity changes significantly. So, at the initial stages of many years of preparation, only preparatory and control competitions are planned.
The main goal of the competition is to control:
- the effectiveness of this training stage,
- acquisition of competitive experience,
- increasing the emotionality of the training process.

It is important to determine the optimal number of competitions, which makes it possible for coaches to systematically train those involved in a sports school without forcing it and providing the opportunity to demonstrate the highest results in important competitions. Each start requires high energy costs, nervous and mental stress of the athlete, after which a relatively long recovery is necessary.
Therefore, excessively frequent competitions and control estimates can have a negative impact on the state of preparedness of an athlete.
The number of competitions also depends on the individual characteristics of the young athlete. With insufficient technical preparedness of an athlete, a long period of recovery of the body, increased nervous excitability, the number of competitions should be reduced. And, on the contrary, with excellent technical readiness, quick recovery, balanced nervous, it is increased.
At the stage of direct preparation for the main competitions, great importance is attached to tactical training. The already achieved level of technical mastery, physical and mental readiness makes it possible to move on to tactical training as close as possible to the conditions of the upcoming competitive activity. The choice of one or another tactical variant, its development and implementation in competitive activity are determined by the level of technical skill of a young athlete, the development of physical qualities, the functional capabilities of the body, and mental preparedness.
Of great importance is the special mental preparation of a young athlete for competitions, which involves obtaining information about the conditions of the upcoming competitions and the main opponents, about the level of training of the athlete and the characteristics of his condition at this stage of preparation, determining the goal of the performance, drawing up a program of action for the upcoming competitions, stimulating the right personal and team motives for participating in competitions in accordance with the goal, raising confidence in solving the tasks.
Psychological preparation is the process during which the formation of personal and professional qualities of football players takes place. That is why the psychological preparation of athletes is an integral part of long-term sports training, the tasks of which are the formation of psychological stability, purposefulness, independence in setting and implementing goals, making decisions, and educating the will.

In the process of many years of sports training, the solution of the problems of psychological preparation is reduced to the following:
1. Education of high moral qualities. Formation of a sense of teamwork, versatile interests, positive personality traits among athletes.
2. Education of strong-willed qualities. The main volitional qualities: purposefulness and perseverance, endurance and self-control, determination and courage, initiative and discipline.
3. Establishment and education of the compatibility of athletes in the process of their activities as part of a team and individual links. The importance of this task stems from the specifics of football as a team sport.

The most important task of psychological preparation is the formation of sports interest, long-term goals, discipline, adequate self-esteem, imaginative thinking, involuntary attention and psych sensory processes.
The main directions of psychological preparation:

- Requirements for regular attendance.
- Accurate fulfillment of the requirements of the trainer-teacher. Education of neatness.
- Collective performance of socially useful work.
- Overcoming difficulties while learning complex exercises and techniques.
- Game in front of spectators.
- Education industriousness. Cultivating Honesty
- Subordination of actions to reason.
- Instilling respect for public property

Pedagogical methods allow assessing the level of development of physical qualities, coordination abilities and sports and technical skills of young athletes. Pedagogical control tests (tests) make it possible to judge the presence of the necessary physical qualities and abilities of an individual for successful specialization in a particular sport. Among the physical qualities and abilities that determine the achievement of high sports results, there are so-called conservative, genetically determined qualities and abilities that are very difficult to develop and improve in the process of training. These physical qualities and abilities have an important prognostic value in the selection of children and adolescents in the training groups of sports schools. These include speed, relative strength, some anthropometric indicators (body structure and proportions), the ability to maximize oxygen consumption, the efficiency of the functioning of the autonomic systems of the body, and some mental characteristics of the athlete's personality. In the selection system, control tests should be carried out in such a way as to determine not so much what the trainee already knows how to do, but what he can do in the future, i.e. to reveal his abilities to solve motor problems, manifestation of motor creativity, ability to control his movements.

The potential sports result of an athlete depends not so much on the initial level of physical qualities, but on the rate of growth of these qualities in the process of special training. It is the growth rates that indicate the ability or inability of an athlete to learn in a particular type of activity.

On the basis of biomedical methods, morphological and functional features, the level of physical development, the state of the analyzer systems of the athlete's body and the state of his health are revealed. Anthropometric surveys make it possible to determine how candidates for enrollment in training groups of sports schools correspond to the morphotype that is typical for outstanding representatives of this sport. In sports practice, certain ideas about the morphotypes of athletes (height, body weight, body type, etc.) have been developed. For example, in basketball, track and field throwing, rowing, high growth is necessary, in marathon running, height does not matter, etc. Medico-biological studies assess the state of health, physical development, and physical fitness of those involved. In the process of biomedical research, special attention is paid to the duration and quality of recovery processes in the body of children after significant training loads. A medical examination is also necessary in order to clarify in each case what treatment and preventive measures children and adolescents need.

Sociological surveys reveal the interests of children and adolescents in practicing a particular sport, effective means and methods for the formation of these interests, forms of appropriate explanatory and propaganda work among school-age children. Selection and orientation are closely related to the structure of the long-term process of an athlete's sports training in the modern organizational form of sports institutions. In accordance with this, the main task of selection is established at each of its stages.

A structural feature of motor activity in football is the implementation of a vast arsenal of pre-developed techniques (motor skills), the choice and implementation of which is determined by the operational analysis of the game situation. These motor skills are associated with receiving and passing the ball, performing free kicks, kicks on goal and other operations.

The main element of the game is a technique - the result of psychophysiological processes. In modern football, the requirements for the successful performance of game actions and techniques by athletes in the conditions of lack of time and space, and active opposition from rivals are constantly increasing.

In the structure of motor activity, actions without the ball play an important role, due to the operational forecasting of changes in the game situation (reaching a “free” place at the intended point of the ball’s fall, etc.).

Depending on the situation that develops during the game, a sportsman faces a variety of motor tasks that he must solve very urgently, and the final success of actions will depend on the degree of urgency and correctness of solving a particular task. The essence of the task is to choose the most effective from the entire arsenal of motional actions mastered by the player. Quite often, the current situation requires a completely new solution to the problem, the “invention” of a movement that was previously unknown to the athlete. This circumstance contributes to the stimulation of creativity in the creation of new motor actions, impromptu creativity.

At the same time, in the course of the game, the actions of a football player can be at certain moments to a certain extent stereotyped, cyclical. However, these actions are based primarily on the response to a change in the situation, the conditions of wrestling. With all the variety of forms of manifestations, the actions of a football player are constantly associated with the solution of situational motor tasks that require the use of extrapolation mechanisms, a kind of prediction of future, upcoming events based on household or special information already in the athlete's memory.

In a football match, about 50% of the game time, the intensity of the load in terms of heart rate is 165-180 bpm. (co-according to the data of numerous studies, it is in this range of the pulse that the anaerobic threshold of energy supply for the muscular activity of football players is localized); 27% of playing time Heart rate – 180 bpm and above, i.e. is at the level of reaching the maximum oxygen consumption; the length of the segments of running with a maximum speed (8 m/s and above) does not exceed an average of 20-40 meters.

The high complexity of the competitive activity of a football player makes great demands on all aspects of the athlete's preparedness: acting in conditions of tough martial arts, being in non-standard situations with a shortage of time and space, a football player must reliably and effectively solve constantly arising technical and tactical problems.

We have developed model weekly training microcycles that take into account the age characteristics of young football players (the set of exercises and load values have been adjusted), supplemented by a special section containing indications of the regulated breathing regimes used, which were combined into special complexes:

Complex of regulated breathing regimes - DU-1

Breathing exercises to increase the vital capacity of the lungs and respiratory volumes. Super-deep (triple) inhalations and exhalations ("Inhale + 3 inhales, exhale + 3 exhales").

Complex of regulated breathing regimes - DU-2

Breathing exercises to increase the strength of the respiratory muscles:

1. Strengthened inhalations and exhalations through clenched teeth and lips;
2. Deflating a light object.

Complex of regulated breathing regimes - DU-3

Breathing exercises to increase the endurance of the respiratory muscles: Frequent and deep breathing.

Complex of regulated breathing regimes - RS

In order to increase the strength and endurance of the respiratory muscles during muscular work, breathing with increased resistive resistance is used. Resistive resistance is created by diaphragming inspiratory-expiratory flows. The diaphragm is built into the breathing mask and creates a resistance to airflow in the amount of 8-10 mm id.st. Breathing under conditions of resistive resistance is used in 10-25% (no more) of the entire training work. The program indicates the exercises against which this effect is applied.

A complex of regulated breathing regimes - Task-1

In order to develop resistance to shifts in the internal environment, it was planned to use dosed breath holdings during physical activity (performed with uniform running of distances of more than 400 m and crosses).

A complex of regulated breathing regimes - Task-2

The breath-holds of the Task-2 complex are used in interval running (for example, 4 x 100 m, 4 x 200 m, 8 x 60 m). Breath holdings are performed in combination with motor cycles - first for every 4-6 steps - a delay, then - for every 8-10 steps.

An analysis of the literature [9-12] data shows that the use of breathing exercises aimed at increasing lung volumes, strength and endurance of the respiratory muscles provides an increase in the aerobic capacity of the body. Hence it follows that it is expedient to use breathing exercises mainly at the general preparatory stage of the preparatory period of the training cycle.

Hypoventilation modes, for example, in the form of dosed breath holdings, help to increase resistance to hypoxia, optimize anaerobic energy supply mechanisms, mobilize the aerobic energy supply mechanism and increase its efficiency, ensuring the development of endurance in all its manifestations. In view of this, it is advisable to use breath holding in the training programs of the special preparatory stage of the preparatory period and in the inter-game cycle of the competitive period.

The systematic use of increased resistive breathing resistance provides an increase in physical performance while maintaining the physiological cost and stability of the voltage of regulatory mechanisms. The noted effect determines the expediency of applying this influence at the precompetitive stage of the preparatory period, in the middle of the intergame cycle and in the second part of the competitive period.

Results.

Based on the indicated effects of various regulated breathing regimes, we have developed, taking into account the age characteristics of young football players, experimental model weekly training microcycles (the set of exercises and load values have been adjusted), supplemented by a special section containing indications of the regulated breathing regimes used. which were combined into special complexes. In turn, these model microcycles were structured according to the main periods of the training cycle of young football players, respectively: in the preparatory period, at the first stage of the competitive period, in the intercircular cycle and at the second stage of the competitive period.

To determine the effectiveness of the developed experimental training program, which provides for the differentiated use of regulated breathing patterns in different periods of the training cycle of young football players, a pedagogical experiment was organized and conducted. As a result of differentiated planning and implementation of training work, as well as the purposeful use of additional ergogenic means, it was supposed to get a more significant increase in physical performance and increase the components of functional fitness in accordance with the main tasks solved in each period of the training cycle.

The results obtained in the pedagogical experiment showed that the integration of various regulated breathing modes into the methodology of training young football players allows to increase the efficiency of managing the development of their functional readiness, to carry out rational management and flexible correction of training influences in accordance with the goals and objectives of each training period.

The results of the pedagogical experiment showed that the differentiated use of regulated breathing modes in accordance with the tasks of training young football players in different periods of the training cycle enhances the effect of the use of conventional training effects (physical exercises), ensures the growth and preservation of functional and players' physical condition during all periods of training and competitive activity. The assumption was experimentally confirmed that at the general preparatory stage of the preparatory period, it is advisable to use breathing exercises that improve the functional state of the respiratory system and increase the aerobic capacity of the body. At the pre-competitive stage of the preparatory period, in the middle of the inter-game time interval and in the second part of the second round of the competition, it is very effective to use increased resistive breathing resistance, which provides an increase in physical performance while maintaining the physiological cost and stability of the tension of regulatory mechanisms. It is advisable to use hypoventilation modes in training programs of the special preparatory stage of the preparatory period and in the inter-game cycle of the competitive period.

The issues of psycho-functional training of young athletes should also not be left out of the field of view of specialists. It is very important already at the initial stages of long-term sports training to form a complex of mental qualities and properties that are of paramount importance for specific activities in a particular sport. It is also important to form the skills and abilities of young athletes to manage their own psycho-functional state, which directly affects both the effectiveness of the training process and sports performance.

At the same time, until now there are no sufficiently scientifically substantiated psychological and pedagogical methods of general psycho-functional training, adapted for use in the training process of young athletes, which could be used in wide practice.

One of the main tasks of the general psych functional training of football players, especially young ones, is to ensure the development of mental qualities that determine the effectiveness of playing activity.

Based on the results of the analysis of scientific and methodological literature, we have developed model training tasks that included special exercises, which in their impact are aimed at developing the leading physical qualities for football, selected in accordance with the tasks of the preparatory period and focused on the formation of specific mental functions and properties of football players. The developed training tasks provided for the use of special means, mainly in the form of special breathing exercises, aimed at mastering by young football players the methods of optimizing the psych functional state and the ability to use them in the process of training work.

Exercises for the formation and development of the most important mental qualities and properties for young football players were directly included in the program of training sessions. Exercises and techniques that allow optimizing the psych functional state were used in the period preceding the training work, during the warm-up, during breaks between exercises, in the final part of the training and after it. In each training session, it was envisaged to perform from 2 to 3 special exercises of a certain psych functional orientation.

Elucidation of the effectiveness of the experimental methodology of general psycho-functional training was carried out in a pedagogical experiment with the participation of two groups of young football players 12-13 years old - control (12 people) and experimental (13 people).

As a result of the pedagogical experiment, it turned out that the systematic use in the training process of the means of purposeful development of mental qualities and methods of optimizing the psycho-emotional state provides higher rates of growth in the psycho-functional preparedness of young football players, which has a very positive effect on the level of technical equipment, provides more pronounced growth rates of functional capabilities and on this basis, it contributes to a more effective growth of the physical fitness of young football players, in comparison with the generally accepted scheme of training, which does not provide for the accentuated use of means and methods of formation and development of mental qualities that are most important for sports activities in football and optimization of the psycho-functional state.

Conclusion.

Thus, the results of the pedagogical experiment allow us to conclude that the purposeful development of certain mental qualities and properties through specially selected exercises and techniques provides not only an increase in the level of psycho-functional preparedness of young football players, but also contributes to a very significant increase in their technical, functional and on this basis of physical fitness.
In the practice of training young football players, one of the key issues is to increase the noise immunity to various disruptive factors that abound in gaming activities. The reason for such close attention to this problem is the game itself, the effectiveness of which is largely determined by the level of both the technical, tactical and physical fitness of those involved, as well as their ability to quickly recover.
Consequently, our assumption was confirmed that it is possible to increase the reliability of athletes performing difficult-coordinating motor actions by optimizing the functional state of the central nervous system. Biofeedback is the means by which the optimal level of functioning of the central nervous system is achieved, which manifests itself in increasing the reliability of sports motor actions and effective solution of motor tasks.

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