

STUDY OF THE EFFECTIVENESS OF THE TRADITIONAL SYSTEM OF TRAINING 6-10-YEARS-OLD INVOLVED IN FOOTBALL

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Annotation. *Purpose:* to identify the degree of efficiency traditionally used in Ukraine, the organization and conduct classes on football with students 6 to 10 years. *Material:* the study involved 57 students, ages 6-10 years. Investigations were carried out through the use of Polar Team System. *Results:* the indexes of the pulse energy and the cost of various options for training sessions, traditionally held in the sections with the children in groups of initial training. Marked reaction parameters organism beginners to competitive load. Substantiated quantitative characteristics of the diet of children. The data of the comparative analysis of energy cost of training sessions and daily food intake of children. *Conclusions:* It was found that classes with beginners accompanied by the use of heavy loads, often diet does not provide full recovery in children.

Keywords: children, load, body, experience, settings, problem, training, football.

Introduction

It is well known that the main tasks of working with beginners in sports is creating a «base» of versatile preparation and strengthening their health [1, 2, 4, 6, 7, 10, 14]. As the leading experts approve, creation of such «base» is possible under condition of realization during this period of the certain features of preparation [5, 7, 10, 11]. It belongs to such features a necessity of realization versatile physical preparation of players and training techniques not only in the selected type of sport, but also other sports. At the same time, it should not be required from beginners the demonstration of stable motor skills during the training of technical elements - children should master the bases of the game techniques, and also receive a necessary skills [12]. One of the priority features of the preparatory process on the first stage are also mandatory application of game method, the inadmissibility of the use of large and heavy loads and full diet for beginners [9, 10]. Connecting with the previous information, it becomes actual the efficiency of realization of the characterized theory positions in the practice of children's trainings. Analysis of recent research and publications indicates a fragmentation and heterogeneity data obtained by other researchers on this issue [1, 3, 8, 15].

Work is executed according to the theme 2.8 «Perfection of sportsmen preparation in different groups of sports» Consolidating plan NIR Ministry of Education and Science, Youth and Sports of Ukraine in the sphere of physical culture and sports in 2011 - 2015.

Purpose, tasks of the work, material and methods

The above-stated determined the objective of the work – on the basis of experimental researches to reveal a degree of efficiency the training system traditionally used in Ukraine for 6-10-year-olds schoolchildren engage soccer. In researches which were spent under direction and together with the professor I.G. Maksymenko, following methods have been used: the analysis of Ukrainian and foreign literary and the Internet-sources, pedagogic supervision, methods of mathematics statistics, the heart rate monitor (pulsometry) and registration of parameters of power inputs (using the system «Polar Team System»). By the plan of researches based on the usage of «Polar Team System» defined pulse (total quantity heart rate of the sportsman for one employment) and energy (quantity of the energy spent by the sportsman for employment) costs of different versions of sport activities which traditionally spend in Sports school and in varied sections with beginners. On the basis of registration the indicators data on heart rate and the energy expenditure have also studied the body's response to children competitive load, which are used in the preparation of the players. It was also estimated a number of calories which Ukrainian schoolchildren receive daily through the diet. After the generalization of the received data, it has been carried out the comparative analysis of the power cost of training employment and the daily food allowance of beginners. 57 students have taken part in the researches in the age of 6-10 years.

Results of the research

During experimental researches it is established that at the stage of initial preparation of children which specialize in soccer and mini-soccer, the usage of the loads are inadequate to age features of beginners takes place. The realization of such work is accompanied by rather high index of heart rate and energy of children. At the same time trainings with use of such loads are characterized by the raised duration that contradicts to the recommendations of leading experts concerning construction of trainings at the given stage of long-term preparation [7, 10]. So, during studying the influence of training employment which traditionally spends in Lugansk Sport schools, on an organism of 6 - 7 years old soccer players, the following is established (tabl.1). The beginners' participation in typical for this age group activities, are characterized by such indexes indicators: energy consumption by each player, on average, up 277.7 kcal; the pulse training cost, on average, each player equals 10117.5 bpm; the averages heart rate max reach 208.4 bpm⁻¹. During researches the content of the typical activities which in Sports school on soccer usually last 1 hour - 1 hour 10 minutes and consist of two parts: 1) execution of the enlarged volume of exercises on mastering by techniques of the game and some games and relay races (duration of this part of employment up to 30 minutes); 2)

participation of beginners in bilateral game by duration 20 - 30 minutes. The analysis of the similar parameters fixed in activities with 7 - 8-years children who visit section of mini-soccer club, allowed to reveal the following.

Table 1

Average values of characteristics of the pulse and the expenses of energy of 6-10-year-old soccer players, registered in week microcycles while performing the various loadings (n=57)

Age of soccer players years	Loadings' orientation / intensity of work, %	Training duration, min	Studied indicators							
			Pulse min, beat·min ⁻¹		Pulse max, beat·min ⁻¹		Training pulse cost, beat		Energy expenses, kcal	
			\bar{X}	m	\bar{X}	m	\bar{X}	m	\bar{X}	m
6-7	Anaerobic and aerobic / 50-95	70	124,8	2,7	208,4	4,2	10117,5	94,8	277,7	12,3
6-7	Anaerobic and aerobic / 65-95	95	125,7	3,0	208	4,1	12124,7	95,8	342,7	13,8
7-8	Anaerobic and aerobic / 50-95	75	120,4	3,1	209,4	3,8	11307,5	97,9	302,4	14,1
7-8	Anaerobic and aerobic / 65-95	85	122,8	3,4	209,4	3,9	12300,1	101,1	357,1	14,9
9-10	Anaerobic and aerobic / 50-95	115	118,1	4,8	210,1	6,2	18149,9	117,3	777,4	24,3
9-10	Anaerobic and aerobic / 65-95	75	123,9	3,5	205,1	4,4	12058,3	100,8	514,9	15,7

Energy consumptions of the organism 7 - 8-years child on one training from the program, on the average, make up to 302,4 kcal. At the same time, the average pulse cost for such training equals 11307.5 bpm, and the mean values of heart rate max reach 209.4 bpm⁻¹. Found that the typical circuit training for beginners who play soccer and mini-soccer, are virtually identical. It is revealed, that typical employment on mini-soccer for 7 - 8-years beginners which last 1 hour - 1 hour 15 minutes, consist of two parts. In the first part of the children are working with the focus on mastering the technique of playing and development of physical qualities (lasting up to 35 minutes). At the same time apply a small amount of traditional mobile games. The second part is usually devoted to bilateral game in mini soccer. Except of studying the reaction to an organism 6 - 8-years sportsmen on the different loads, similar research it has been lead and at participation 9 - 10-years players who are engaged in the Sport School [13] and sections for one year. As an example, the quantitative characteristics of energy and heart rate recorded in a typical training session (total duration 1 h 55 min warm-up, individual exercises with the ball, and exercises for developing basic physical qualities - intensity of training 50 - 85%, duration of 1 hour, two-way game duration of 15 min, exercises for flexibility and restore breathing - duration 10 minutes) with the athletes who specialize in mini-soccer. During such training, each player spends, on average, 777.4 kcal, means values of heart rate max equals 210.1 bpm⁻¹, a pulse value of such training, on average, is 18,149.9 beats.

During the analysis of traditional approaches to construction of the training process at the stage of initial preparation it is also established, that, being engaged 3 - 4 times the week, one of them is on Saturdays, the beginners take part in training games. For example, in soccer Sports School the plan of carrying out of such competitions is the following: after warm-up children part at teams for 5 - 6 persons; each team plays on the area for 10 minutes, then beginners have an active rest 15 - 20 mines - carry out exercises on restoration of breath, on flexibility, juggle with a ball, etc; after the termination of productive leisure the command again leaves on the area. Usually these lessons last 1 hour - 1 hour 30 minutes, so the players of one team play 2 - 3 times in 10 minutes on the pitch. It is also established, that the continuous training (or with one break) participation of beginners in bilateral games which last from 30 up to 50 minutes. As an example, there are the parameters of power inputs and heart rate, registered at beginners, during participation in training games. So, the participation of 6 - 7-year-olds training in-two-way game duration 1 hour 35 minutes (being on the area during a match 3 times for 10 min with 20 min pauses active recreation) is characterized by the average cost of energy at 342.7 kcal, quantitative values of the total value of the pulse loads - 12124.7 bpm and max heart rate averages at 208 beats min. To participate in the same training session lasting 1 hour 25 minutes (warm-up, 2 ×

20 min halftime, 15 minutes break in the form of recreation, exercise on recovery) 7 - 8-year-old athletes who specialize on mini-soccer, on average, spend 357, 1 kcal, while the average cost of such an exercise pulse is 12,300.1 beats and quantitative characteristics of heart rate max, on average, equal to 209.4 bpm⁻¹.

During the research of similar parameters at 9 - 10-years beginners which are engaged in mini-soccer for the first year, such parameters were recorded. During participation in the bilateral game - inning 2 × 20 minutes of «pure» time, rest for 1 minute every 5 minutes of the game, the total duration of the study 1 hour and 15 minutes - each competitor, on average, «burns» 514.9 kcal; averages HR max equals 205.1 bpm⁻¹ min and the pulse cost of such games, an average of 12,058.3 beats. The comparison of the performance with the varying results of similar studies conducted with older athletes [1, 3, 5, 14], indicates that in modern sports games the initial training phase is characterized by fairly frequent application in the trainings with significant children and sometimes large loads. According to the plan of research, for the definition of parameters of power inputs and heart rate, connected with performance by beginners of different training programs and participation in competitions, the quantity of calories that average visitors of sports sections get every day while feeding was determined. So, while studying the food allowance revealed that 6 - 7-years children-visitors of Lugansk soccer Sports School, on the average, daily receive: for a breakfast - 300 - 320 kcal; for a dinner - 510 - 540 kcal; for lunch - 150 - 170 kcal; for a supper - 700 - 750 kcal; as a whole within day (considering consumption of different drinks) - 1760-1830 kcal. At the same time, according to information from various experts, it is known, that at the given age of an expense of energy on maintenance of the basic exchange, for specifically-dynamic action of food stuffs and on performance of different household actions can make 1200 - 1400 kcal a day [9, 10]. On employment by different physical exercises at school (an active break, physical exercises) children during the day can spend up to 200 calories. In this case, as set out in experimental studies, energy consumptions to perform outlined above training programs and to participate in bilateral games can reach 350 or more calories. Thus, the general daily expenses 6-7-year old children who visit football section can make 1855 and more kcal. And from prepared food average Ukrainian child of 6-7-year-old receive around 1760 - 1830 kcal. Similar discrepancy of quantity of the kcal received with food stuffs and power inputs of children has been fixed during the study of 9 - 10 - year old beginners' diet. Thus, it is clear that the results obtained in the process of food calories almost do not provide enough energy to the body of most Ukrainian children who visit the Sports School and sports clubs. On the background of insufficient provision of energy to children who do inadequate physical activities can lead to a depletion of the organism. The previous statements point to the necessity of revision the traditional approaches to organizing and conducting activities with children. In our opinion, such review may be connected with performance of two conditions: 1) it is necessary to apply the physical activities that are adequate to age features of children; 2) it is necessary to provide the preparation of an adequate food allowance of children.

Conclusions

1. During experimental researches it is established, that system of carrying out trainings traditionally used in Ukraine for soccer and mini-soccer with children of 6-10 years has a number of lacks. Such lacks are primarily associated with the frequent use of heavy loads: 6-7-year-old soccer player on one standard workout spends, on average, to 342.7 kcal at average values of heart rate max at 208 bpm⁻¹ and heart rate for the amount of exercise to 12,124.7 bpm.

2. It is revealed that the energy needs for children due to the implementation of standard training programs are not fully satisfied with the diet, which is used by the average Ukrainian family. Thus, for example, the average power of every day diet of 6 - 7 years old soccer players make 1760 - 1830 kcal, that is an average daily energy consumption, taking into account training exercises for the beginners to reach 1855 and more kcal. Stated above causes an indispensability of review of the traditionally developed approaches to the organization and carrying out of employment by soccer and mini-soccer with children of 6-10 years.

Further investigations provide definition of reaction to an organism of young sportsmen on various training and competitive loads which are used in preparation of children and teenagers of 11-17 years. The recommendations in the given direction of researches can be connected with use of the received parameters at the first stage of long-term training in order to improve the quality of the preparation process.

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