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Informative physical training tests for the selection of children for football

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Abstract

Purpose: To determine the effectiveness of informational tests on physical fitness to select children for football.

Methods: When monitoring the strength and speed-strength indicators of young football players, a special device was used, the "BEDRO", which made it possible to determine the following groups of indicators:

F_{max} – the maximum value of the explosive force of the muscles in the explosive isometric mode;

J - the coefficient characterizing the explosive strength of muscles in the isometric mode; $J = F_{max} / t$ (kg/s);

Q – starting power. $Q = 0.5\ F_{max} / t_1$ (kg/s);

G – accelerating force. $G = 0.5\ F_{max} / t_2$.

Results: Unfortunately, the prediction of final values based on initial data is not always effective. In the practice of football, there are many examples when the weak turned out to be among the strong after a certain time of classes, and vice versa. Therefore, when predicting athletic abilities, it is recommended to focus not only on the initial level of development of any qualities or characteristics, but also on the growth rate of sports results. The selection system and intraspecific orientation allows creating favorable prerequisites for the full disclosure of the athlete's potential and their improvement. At the same time, a number of specific factors that determine the sports result in football and are recorded during the selection of athletes are under the active control and influence of the creative activity of the coach.

Conclusion: Studies have shown that there are high correlations between the indicators of speed and strength training and individual control exercises of physical fitness of young football players. Thus, the index (F_{max}) – the maximum value of the explosive force of the muscles in the explosive isometric mode has high correlations with the rest of the speed-power indicators J, Q, G (0.635 -0.745), also revealed high correlations with four indicators of physical training –running 20 m, running 60 m, jumping up from a place and long jump from a place.

Keywords: selection, physical fitness tests, football, informative and reliable tests.

Introduction

In the theory and methodology of physical culture, the problem of selection and sports orientation is in the stage of constant search and scientific justification. The solution of this problem will allow timely identification of capable and talented children to achieve high sports results. Scientific and methodological justification of the selection and orientation of optimal physical conditions of football players, taking into account their playing role, is a necessary condition in the long-term system of training athletes. Despite the fact that a large number of scientific studies have been conducted on the problem of sports selection, there are still many unresolved problems in determining informative and reliable tests for strength and speed-strength training of young football players in the initial training groups. Many specialists use various control exercises and tests to determine the most gifted children, but these criteria in most cases are one-sided or subjective. Very often, the selection is carried out spontaneously, and specialists cannot accurately determine the initial level of physical capabilities of the child and do not observe the growth rate of physical qualities during the initial training. That is why, at the present stage of football development, there is a need to develop scientifically based provisions for the selection of children in primary training groups.

Materials and methods

In sports, the search for effective selection methods is actively underway to further increase the level of achievements of athletes. The effectiveness of sports selection depends mainly on the rational selection of control exercises and tests that correspond to the age and level of fitness of each athlete. The main criterion for evaluating the effectiveness of the selection methods used is the increase in sports results. According to most experts, the success of competitive activity is determined by the speed of movement and the power of muscular efforts, which is confirmed by the high density of sports achievements in the international arena. In this regard, many researchers have increased interest in the study of strength and speed-strength training of athletes. The level of development of speed and strength qualities determines achievements in almost all sports, and therefore considerable attention should be paid to methods of monitoring and improving these qualities.

The use of the "BEDRO" utility model made it possible to monitor the strength and speed-strength indicators of the development of the hip extensor muscles in young football players during one training session and determine the cumulative effect after a year of training work.

During the testing, the indicators of general physical fitness of young football players were revealed. The following tests were used: Running at 20 m; assessment of speed qualities, reactivity; three attempts were made, the best result was counted. Running at 60 m; assessment of speed and strength qualities, three attempts were made, the best result was counted. High jumps from a place; assessment of speed and strength qualities; three attempts were made, the best result was counted. Long jumps from a place; assessment of speed and strength qualities; three attempts were made, the best result was counted. Throwing a stuffed ball (1 kg) forward with two hands from behind the head, m. Lifting the trunk from the supine position to the sitting position, number of times. All tests were tested for stability by the "Test-Retest" method. All calculations were carried out using the computer program "Windows-Excel". The generally accepted methods of mathematical statistics described in the specialized literature were used. The following indicators were determined: arithmetic mean, mean square deviation, coefficient of variation, the Student's t -test was used to assess the reliability of differences, sample averages in the groups of the studied population.

Results and discussion

The table presents an analysis of the correlation relationships of physical fitness indicators and speed-strength indicators obtained with the help of a special simulator. 48 children involved in football in the initial training groups took part in the experiment. To determine the strength of the correlation coefficients, we used the Chedock scale

As can be seen from the table, high corre-

Table . Correlations between indicators of physical fitness and speed – strength indicators of young football players in groups of initial training (n=48)

Indicators	F-max	J	Q	G	20 m running	60 m running	Jump up from a place	Long jump from a place	Throwing a stuffed ball (1 kg)	Lifting the trunk from the supine position to the sitting position
F-max										
J- speed and power index	745									
Q- starting power	635	547								
G- accelerating force	649	621	577							
20 m running	712	678	581	678						
60 m running	618	543	622	624	725					
Jump up from a place	633	479	535	537	625	432				
Long jump from a place	549	525	511	438	674	535	434			
Throwing a stuffed ball (1 kg)	321	278	282	233	234	212	187	121		
Lifting the trunk from the supine position to the sitting position	279	139	231	189	177	166	124	117	218	

lations were revealed between the indicators of speed and strength training and individual control exercises of physical fitness of young football players. Thus, the indicator (F_{max}) – the maximum value of the explosive force of the muscles in the explosive isometric mode has high correlations with the rest of the speed-power indicators J, Q, G (0.635-0.745), also revealed high correlations with four indicators of physical training –running 20 m, running 60 m, jumping up from a place and long jump from a place. However, with the indicators of throwing a stuffed ball (1 kg) forward from behind the head with two hands and lifting the trunk from the supine position to the sitting position, a very weak correlation was revealed (0.279-0.321).

Studying the indicator J - coefficient characterizing the explosive strength of muscles in the isometric mode, we found average correlations with the speed and strength indicators Q, G (0.547- 0.631). We also identified average correlations with the indicators of physical fitness running 20 m, running 60 m, jumping up from a place and long jumps from a place (0.525-0.678). With indicators of physical fitness, throwing a stuffed ball (1 kg) from behind the head with two hands forward and lifting the trunk lying on the back to a sitting position revealed a very weak correlation (0.139-0.278). Observing the Q – starting strength indicator, an average correlation was revealed (0.511-0.622) and two indicators of physical training revealed a very weak correlation (0.231-0.282).

Studying the correlations of the G – (accelerating force) indicator, the average values of the correlation coefficient with the indicators of physical training were revealed: running 20 m, running 60 m, jumping up from a place and long jumping from a place (0.438-0.678), and with the indicators of physical fitness, throwing a stuffed ball (1 kg) forward from behind the head with two hands and lifting the trunk from the supine position to the sitting position, our analysis also showed a very weak correlation (0.189-0.233).

The analysis of correlations with the control exercise running at 20 revealed high and medium connections with the control exercises running 60 m, jumping up from a place and long jumping from a place (0.625-0.725) and a very weak connection with the exercises throwing a stuffed ball (1 kg) forward from behind the head with two hands and lifting the trunk from the supine position to the sitting position (0.177-0.234). The control exercise running 60 m has a weak and medium connection with the exercises jumping up from a place and long jumping from a place (0.434-0.535) and a very weak connection with the exercises throwing a stuffed ball (1 kg) forward from behind the head with two hands and lifting the trunk from the supine position to the sitting position (0.166 -0.212).

The perspective of an athlete is determined on the basis of his motor potential, the possibility and necessity of further development of physical qualities, improvement of the functional capabilities of the body, the formation of new motor skills, the ability to transfer high training and competitive loads. Most experts believe that selection is a system of organizational and methodological measures of a complex nature, including pedagogical, sociological, psychological and biomedical methods of determination, on the basis of which the inclinations and abilities of children for specialization in a particular sport are revealed. At the same time, selection is an important and organic part of the educational and training process, as it contributes to solving the main task of sports training - achieving high sports results. Thus, the task of selection is to select the most suitable guys based on the requirements of the sport. The task of sports orientation is based on the assessment of the capabilities of a particular person, to make a choice of the most suitable sports activity for him.

When determining the prospects of athletes, it is necessary to focus not only on the presence of high potential physical and psychological capabilities, but also be sure to keep in mind the assessment of his ability to mobilize reserve capabilities, to effectively realize motor potential in extreme conditions – responsible sports competitions.

Recent studies have shown that the most significant factors affecting athletic performance and which must be taken into account during selection are speed-strength and coordination abilities.

The need for selection is also due to the fact that different people have different degrees of trainability of motor skills, physical, mental and other qualities. Not every person is able to reach the heights of sportsmanship outstanding achievements in football are the result not only of hard training, but also of a large number of hereditary and other data that an athlete possesses. That is why one of the main tasks of the

selection is to find talented guys who have the necessary qualities to achieve great success in football. The biggest difficulty lies in the ability to discern in a child a set of qualities that he will need as a highly qualified football player and will determine the success of his future sports activities. The identification of these qualities determines the principle of an integrated approach. This approach allows not only to get extensive information about a young player, but also, by comparing various indicators, to outline the possibilities of forming special abilities.

The assessment of their individual characteristics is based on a set of indicators that characterize the prospects of children in football activities. Athletes achieve a fairly high level of skill through various efforts and at different times. Therefore, sports selection should be considered as a time-consuming process. It would be a big mistake to attempt a short-term, urgent selection of children for football lessons, despite the use of the most modern assessment methods.

Indisputable and mandatory conditions for effective selection are such events as viewing the largest possible number of children who want to play football, and the active activity of the coach associated with the constant search for football talents.

Conclusion

Recent studies have shown that the most significant factors affecting athletic performance and which must be taken into account when selecting are speed-strength and coordination abilities. Based on the conducted studies, correlations between individual indicators of physical fitness and indicators of speed and strength qualities were revealed.

Experimentally established, the most informative test tasks for the studied age contingent include: running 20 and 60 meters on the move, jumping up from a place and long jumps from a place that must be used as a minimally sufficient test of the physical fitness of young football players and used in assessing the intragroup fitness of players and the uniformity of the group in physical fitness.

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