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Methodology for assessing the functional state of young football players

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Abstract

Purpose: The study of the results of the instrumental assessment method conducted to determine the indicators of functional fitness of football players aged 13-14 years.
Methods: Analysis of scientific and methodological literature; questionnaire survey; methods of assessment of physiological and psychological states of athletes; pedagogical observations and pedagogical testing; pedagogical experiment; methods of mathematical statistics.
Results: The total time required for this athlete to complete a 10-minute running workout on a special treadmill was 11 minutes 58 seconds. During training, HR reached a maximum of 177 beats per minute and an average of 132 beats per minute. During this workout, the athlete consumed 79 kcal of energy and burned 28% of fat. During exercise time HR was above 140 beats per minute, that is, 3:07 minutes of exercise in the anaerobic zone and 8:50 minutes of exercise in the aerobic zone. If we consider this athlete by 5 intensity zones, then he trained for 2:24 minutes in the small zone, 5:53 minutes in the middle zone, 2:26 minutes in the large zone and 32 seconds in the submaximal zone.

Conlcusion: After the first workout, the heart rate increased to 158 beats per minute, and the recovery time was 45 seconds. After the second workout, a heart rate of 175 beats per minute was observed, and the recovery time was 2:17 minutes. While HR was 172 beats per minute after the third workout, the recovery time was 3:30 minutes. In this figure, we see that after the fourth exercise, the load on the body resulted that HR was 165 beats per minute, and the recovery time lasted 1:17 minutes.

The total time spent on these exercises was 10 minutes and 12 seconds. During training, HR reached a maximum of 179 beats per minute and an average of 142 beats per minute. 100 kcal was spent on this workout and 22% of fat was burned.

The exercise time is above 140 beats per minute, that is, 5: 05 minutes of exercise in the anaerobic zone and 5: 06 minutes of exercise in the aerobic zone.

If we consider this athlete by 5 intensity zones, then he trained for 57 seconds in the small zone, 4:39 minutes in the middle zone, 2:45 minutes in the large zone and 1:49 seconds in the submaximal zone.

After the first training session, the heart rate increased to 177 beats per minute, and the recovery time was 1:32 minutes. After the second training session, the HR was 179 beats per minute, and in 2:15 minutes the athlete's body recovered. While the HR after the third workout was 172 beats per minute, the athlete spent 1:54 minutes on recovery. After the fourth workout, the load on the body showed that the HR was 166 beats per minute, and the recovery time was 1:02 minutes, after which the athlete's body recovered (see image 4)
Keywords: soccer, strength qualities development, starting speed, anthropometric indices, starting and distance.

Introduction

Nowadays, football is becoming an increasingly popular sport. Modern football places high demands on the training of athletes, which requires the search for modern approaches to improving the training process, the development of technologies that enhance the technical preparedness of athletes.

A number of studies are being conducted in the world, taking into account the morphofunctional indicators of players of different ages, their physical development, increasing the level of physical and technical and tactical training, increasing the effectiveness of technical and tactical actions in competitive activities. The insufficient number of studies aimed at improving the technical training of young football players in accordance with modern sports requirements requires a deeper study of issues related to the development of tools and techniques for analyzing and developing the technical training of young football players at various stages of the annual preparatory cycle.

Great importance is attached to the development of children's football in our republic. The qualification and education of talented and talented players in Uzbekistan is becoming important in the preparation of reservists by Olympic and Paralympic training centers, professional football clubs.

Results and discussion

A study was conducted in the laboratory of the Scientific Research Institute of Physical Culture and Sports in order to study the physical development and functional condition of 13-14-year-old football players involved in the Yangier city football club. During the scientific research, anthropometric indicators and the functional state of football players were checked. The functional state of the athletes

Table 1. Indicators of the vital capacity of the lungs of football players aged 13-14 years (n=14)

№	Full name	Spirometer	
		Age	*Capacity of the lungs (l)*
1.	Tursunboev Bunyod	14	4,2
2.	Akhmedov Mursal	14	3,8
3.	Abdumominov Doniyor	14	3,7
4.	Akhrorov Abror	14	2,7
5.	Sharifov Javohir	14	3,1
6.	Yoldoshev Zayniddin	13	2,4
7.	Nuriddinov Ogabek	14	2,6
8.	Beknazarov Abror	14	3,3
9.	Qudratov Sirojidin	13	2,8
10.	Nasanov Sardor	13	2,9
11.	Shavkatov Farrukhjon	13	3,2
12.	Mavlonov Azizbek	13	2,4
13.	Abdullaev Davronbek	13	2,5
14.	Alimqulov Ganisher	13	2,7

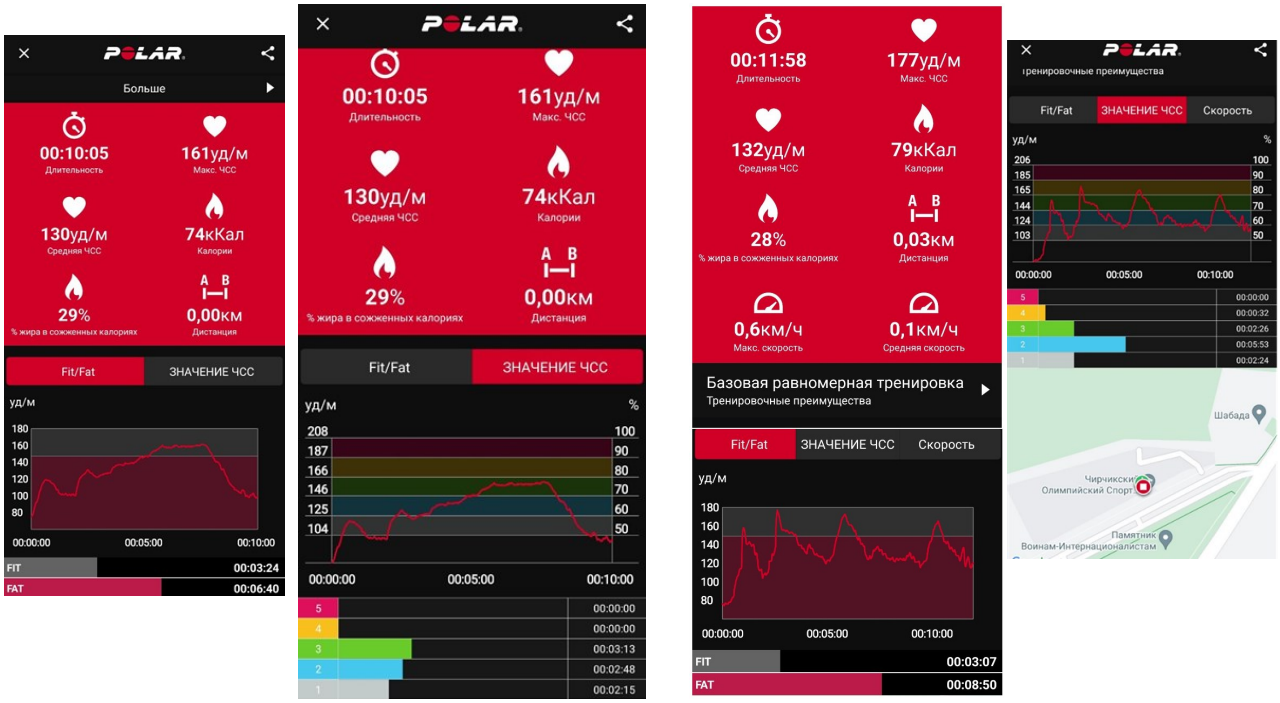
and the vital capacity of the lungs were determined using a spirometer. A total of 14 players participated in the study (see table 1).

Table 1 above shows data on determining the vital capacity of the lungs in 14 athletes by measuring with a spirometer. We will give some of them by example: the living lung capacity of the subject Tursunbaev B. is 4.2 liters, Abdumomunova D. is 3.7 liters, Eldosheva Z. is 2.4 liters, Alimkulova G. is 2 liters. The result of 7 liters was not observed. Analyzing the results of this research method, it should be noted that during the study it was found that along with the underestimated

Table 2. Anthropometric indicators of football players aged 13-14 (n=4)

№	Full name	Body Length (cm)	Weight	Chest circumference (at rest), (cm)	Chest circumference (inhale), (cm)	Chest circumference (exhale), (cm)	Arm Length (cm)	Leg Length (cm)	Wrist circumference, (cm)	Hip circumference, (cm)	Shoulder width (cm)
1.	*Turs-ev B*	*172,5*	*68*	*36*	*37,5*	*35,5*	*28,5*	*34,7*	*11,5*	*20,3*	*42,2*
2.	*Yol-ev Z*	*156*	*41*	*28*	*29,7*	*27,5*	*25,9*	*31,9*	*8,6*	*15,5*	*35,6*
3.	*Abd-ov D*	*165,5*	*60*	*35,7*	*25,5*	*33*	*28,4*	*33,9*	*9*	*19*	*41,9*
4.	*Alim-ov G*	*158*	*47,5*	*31,5*	*33*	*31*	*25,7*	*34,5*	*9,8*	*16,2*	*39*

Fig 1.



anthropometric indicators of the subjects Z.Yuldashev and G.Alimkulov, lung vitality is also slightly below normal. As for the results of the general analysis, based on the results obtained, an individual approach was developed for each player and adjustments were made to the training process.

We also determined the anthropometric indicators of young players.

According to the analysis of the anthropometric results of the football players who participated in the study, it was found that the body length of Tursunbaev Bunyod was 172.5 cm, body weight-68 kg, chest circumference-36 cm at rest, 37.5 cm on inhalation and 35.5 cm on exhalation. In partial measurements, they showed an arm length of 28.5 cm, a leg length of 34.7 cm, a wrist circumference of 28.5 cm, a hip circumference of 20.5 cm and a shoulder width of 42.2 cm.

According to the same indicators, the body length of Yuldashev Zainiddin was 156 cm, weight 41 kg, chest circumference 28 cm at rest, 29.7 cm on inhalation and 27.5 cm on exhalation. The arm length was 25.9 cm, the leg length was 31.9 cm, the wrist length was 8.6 cm, the hip circumference was 15.5 cm, the shoulder width was 35.6 cm.

Abdumominov Daniher's body length is 156 cm, weight 60 kg, chest circumference is 33.7 cm at rest, 35.5 cm when inhaling, 33.0 cm when exhaling, arm length is 28.4 cm, leg length is 33.9 cm, wrist circumference is 9 cm, hip circumference is 19 cm, shoulder width is 41.9 cm.

Alimkulov Ganisher's body length is 158 cm, weight 47.5 kg, chest circumference 31.5 cm at rest, 33 cm when inhaling, 31 cm when exhaling, arm length 25.7 cm, leg length 34.5 cm, wrist circumference 9.8 cm hip circumference 16.2 cm and shoulder width 39 cm.

Based on the results obtained, it can be concluded that Yoldashev Zainiddin and Alimkulov Ganisher lag behind in physical development at this age. The two remaining athletes, Buned Tursunbayev and Danier Abdumominov, are considered to be developing. Buned Tursunbayev was found to be overweight due to eating large amounts of bread and dough.

The functional state of all subjects in the experimental group was determined using a Polar H 10 heart rate monitor.

The functional state of the body was monitored using a 10-minute special running workout on a treadmill for young players. The duration of the run was 10.05 minutes. The maximum HR (heart rate) was 167 beats per minute. An average of 130 beats/min was observed. Energy consumption was 74 kcal, and fat burning was 29%. The workout took 6.40

minutes in the aerobic zone and 3.24 minutes in the anaerobic zone.

If we analyze the training by intensity zones, it was 2.15 minutes in the 1st intensity zone, 2.48 minutes in the 2nd intensity zone and 3.13 minutes in the third intensity zone. No load was observed in the submaximal and maximum zones. Based on these indicators, it can be concluded that the overall level of physical fitness of young players is normal.

The total time spent on these exercises was 7 minutes and 11 seconds. During training, HR was a maximum of 166 beats per minute and an average of 128 beats per minute. 36 calories were spent on this workout and 32% of fat was burned.

During the exercise time is HR was above 140 beats/min, that is, he completed 2:04 minutes of exercises in the anaerobic zone and 5:06 minutes of exercises in the aerobic zone.

If we consider this athlete by 5 intensity zones, then he trained 2:41 minutes in the small zone, 2:21 minutes in the middle zone, 1:40 minutes in the large zone and 1 second in the submaximal zone.

After the first workout, the HR increased to 149 beats per minute, and the recovery time was 52 seconds. After the second exercise, it was noticed that HR was 166 beats per minute and the recovery time is 56 seconds. While YUGS was 162 beats per minute after the third workout, the recovery time was 1:10 minutes. After the fourth workout, the effect of the athlete's body on the load was 150 beats per minute, and for 40 seconds we watched whether the athlete's body was recovering.

The total time spent on these exercises was 11 minutes and 31 seconds. During training, HR performed a maximum of 176 beats per minute and an average of 130 beats per minute. 106 calories were spent on this workout and 17% of fat was burned.

During the exercise time HR was above 140 beats per minute, that is, compared to 5:49 minutes of exercise in the anaerobic zone, 5:42 minutes of exercise in the aerobic zone.

Looking at this athlete in 5 intensity zones, he trained for 4 seconds in the Small Zone, 3:52 minutes in the middle zone, 3:29 minutes in the large zone and 1:57 minutes in the submaximal zone. However, it worked for 1:49 minutes in the maximum zone.

Conclusion

The conducted research expands the possibilities of young football players to optimize loads, choose the right tools and methods in the educational and training process and competitive activities. Getting up-to-date information about the athlete's functional state helps the coach manage the training process, correctly distribute the volume and intensity of loads, and approach the athlete personally and scientifically. Injury prevention of athletes is also achieved. And this, in turn, creates the ground for the growth of sports results.

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Football player, soccer games, Physical education and sport, Theory of physical education, Analyzing of sport competitions.