

FEATURES OF ADAPTATION OF THE BODY OF YOUNG ATHLETES TO  
PHYSICAL ACTIVITY AT DIFFERENT STAGES OF THE EDUCATIONAL AND  
TRAINING PROCESS

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Recently, there is a tendency to increase the number of children who regularly participate in athletics and sports, as a result of which young athletes develop physiological mechanisms of quick and long-term adaptation, which are characteristic of each sport, which makes sports provides rapid growth of indicators and maximum results of functions in the body [1,3].

In general, studying the features of adaptation of the body to physical activity, in particular, to athletics and sports, increases the effectiveness of managing the training process and sports performance of young athletes.

**Purpose of the work:** to determine the features of adaptation of the body of athletes aged 11-14 years to physical activity at different stages of the training process.

Schoolchilids from the 37th secondary school in the city of Nukus, Republic of Karakalpakstan, took part in the experiment. A total of 30 teenagers took part in the experiment. The students were divided into 2 groups. The first control group consisted of adolescents who regularly engaged in physical education for 2 hours a week (control) according to the school curriculum. Total: 15 people. The experimental group included teenagers involved in athletics and sports.

Physical development reflects the processes of growth and development of the body at individual stages of ontogenesis and is one of the most important integral criteria reflecting the state of human health, especially during the period of formation of the body. An important role is played by the connection between morphological and functional indicators and the nature of physical activity. As a rule, under the influence of physical activity, relatively labile parameters (body weight) undergo significant changes, and differences in body length are often associated with sports choice. At the same time, moderate strength training (loads that develop the quality of endurance) has less effect on the morphotype than, for example, strength training (and more on the functional state of the cardiovascular system).

We studied the state of physical development of young athletes (initial training group) by comparing them with their peers who do not go in for sports (Table 1).

As can be seen from the presented results, the weight and body length of children 11-12 years old involved in sports did not have significant differences with the control group.

Body weight in both groups was in the range of 39-41 kg, and length corresponded to average values for this age. In the comparison groups, the indicators of chest circumference and excursion did not differ and corresponded to age norms. We found no differences between the studied indicators and the data of other authors [2].

Table 1

Morphometric indicators of adolescents 11-12 years old.

Indicators	Control group	Experimental group	result
Age indicators	11,63±0,38	11,55±0,31	>0,05
Body weight (kg)	40,66±1,65	39,54±1,77	>0,05
Body length(cm)	150,81±1,94	148,12±1,86	>0,05
Chest circumference - at rest (cm)*	74,18±0,71	73,25±0,67	>0,05
Chest circumference - inhalation (cm)	80,22±0,75	80,13±0,69	>0,05
Chest circumference - exhale (cm)	70,51±0,69	70,47±0,66	>0,05
Pine index(units)	35,97±3,15	35,33±2,87	>0,05

According to the results of calculating the Pyne index, the physical condition of the examined people is assessed as weak, which indicates insufficient development of muscle mass in children of this age. Our results are consistent with the observations of many researchers, who show that since the 2000s there has been a downward trend in body weight indicators in the generation of schoolchildren, in most age and gender groups - these deviations are greater than those of schoolchildren 25 recorded as a percentage. [1].

The next age group, 13-14 years old, is the teenage age. With nastupleniem sexual maturity, a new phase begins, controlled by steroid hormones. V chastnosti, ot vliyaniya steroidnykh hormonov zavisit velichina massy tela, karakterizyuschaya uroven maturity rebenka, ego gotovnost vpolnyat deistviya razlichnoy slojnosti, v tom chisle razvitie kachestva skorosti [14].

There were no significant differences in body length and weight, chest circumference and excursions between teenage athletes in the training group and peers in the control group. Comparison of the obtained data with the results of previous studies [2] did not reveal significant differences between schoolchildren of the same age (Table 2).

Table 2

Morphometric indicators of adolescents 13-14 years old

Indicators	Control group	Experimental group	result
Age indicators	13,59±0,34	13,47±0,26	»0,05
Body weight (kg)	51,18±1,63	50,07±1,60	»0,05
Body length(sm)	161,95±2,04	160,86±1,77	»0,05
Chest circumference - at rest (sm)*	80,22±0,65	79,91±0,63	»0,05
Chest circumference - inhalation (sm)	87,16±0,66	87,25±0,65	»0,05
Chest circumference - exhale (sm)	77,55±0,64	77,47±0,62	»0,05
Pine index(units)	31,68±2,51	30,42±2,44	»0,05

Body weight, as in the previous age group, remained within the range of 50-51 kg, and body length and chest circumference at rest were around average values. The main anthropometric indicators of athletes (body weight and length, KQAth) significantly ( $p < 0.05$ ) increased with age (comparison of the initial training group and the 1st training group). The dynamics of indicators were similar in the control group.

The weight-height index significantly increased ( $p < 0.05$ ) due to higher growth rates of body weight (26%) compared to body length (8.2%).

#### LITERATURES:

1. Виру А.А. Развитие двигательных способностей у мальчиков в период полового созревания / А.А. Виру, Т. Смирнова, А. Волвер // Наука в олимпийском спорте. – 1996. – № 2 (5). – С. 49-56.
2. Воронцов И.М. Оценка антропометрических данных / И.М. Воронцов // Вопросы охраны материнства и детства. – 1985. – № 6. – С. 7-11.
3. Исаев А.П. Адаптация человека к спортивной деятельности: монография / А.П. Исаев, С.А. Личагина, Р.У. Гаттаров и др. – Ростов-на-Дону, 2004. – 236 с.

**SUMMARY.** The article reflects the results of a study of morphometric indicators of adolescents involved in (athletics, sports games) at different stages of the training process. The problems of determining the features of adaptation of the body of athletes aged 11-14 years to physical activity at different stages of the training process and increasing the efficiency of managing the training process and sports performance of young athletes were also considered.