

FEATURES OF THE FORMATION OF MORPHOTYPES OF YOUNG SWIMMERS IN THE PUBERTY PERIOD OF INDIVIDUAL DEVELOPMENT

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Abstract

At the present stage, trainers and teachers are interested in the issue of studying the patterns of morphological and functional changes occurring in the human body under the influence of sports activities, in one of the sensitive periods of ontogenesis, which is the puberty period of the body's development.

Keywords: Young swimmers, morphotypes swimmers, body type, pubertal period of development, morphological and functional indicators.

Introduction

Today, the issue of optimizing the sports training of young athletes during puberty is a pressing problem. To solve this problem, it is important to justify the appropriateness of the volumes and intensity of training loads, taking into account the age of young athletes, which in the future predicts a favorable outlook in terms of sports achievements. After all, it is this factor that stimulates the coach to intensify the process of sports training of promising young athletes.

By the end of the 90s of the last century, extensive material had been accumulated in many areas of work in terms of training swimmers - selective selection and functional characteristics of athletes, determination of model characteristics of high-class swimmers, assessment of their performance and prospects. (N. Zh. Bulgakova, T. S. Morozova, 2003, Yu. A. Bukov, S. V. Pogodina, 2003, S. E. Pavlov, 2008). Modern scientific research in the field of sports morphology also greatly contributed to the improvement of work and accumulation of practical material in the issue of training swimmers. Thus, thanks to the conducted scientific research and the results obtained, a system for training a sports reserve in swimming, as well as a system for training high-class swimmers, has been established. All this has allowed us to improve swimmers' performance in a relatively short period of time and achieve significant athletic heights.



At the present stage, trainers and teachers are interested in the issue of studying the patterns of morphological and functional changes occurring in the human body under the influence of sports activities, in one of the sensitive periods of ontogenesis, which is the puberty period of the body's development.

According to N. Zh. Bulgakova, 2003, 2008, the following issues of scientific support for the training of young swimmers are the most pressing:

1. Accumulation and analysis of material characterizing the morphofunctional status of adolescent swimmers, compilation of model characteristics of age groups of swimmers at various stages, with the aim of observing the dynamics of physical development during the period of natural growth and the beginning of systematic training.
2. Monitoring the physical development and physical fitness of young children who begin swimming lessons at the initial training stage, in connection with the problem of a general decrease in the overall volume of children's physical activity.

The above served as the basis for conducting the present research in dynamics: in particular, an analysis was conducted of changes in indicators characterizing the physical development of young swimmers aged 13-15 years.

As is known, this age period includes the stages of basic training and advanced specialization of young athletes in this sport. Therefore, a differentiated approach is needed to show how the biological processes of natural growth and development of the body and the effect of systematic and regular training mutually influence each other, which ultimately leads to the gradual formation of a certain morphotype of young swimmers. The purpose of this study: to assess the morphological and functional changes in the body that occur in the body of young swimmers at the stage of the training process.

Objectives: to determine the morphofunctional indicators characteristic of representatives of age groups of young swimmers; to identify the dynamics of indicators in the age range of 13-15 years.

Research methods: The research was carried out using the methods of somatometry, spirometry, dynamometry, and pulsometry. Physical performance was determined using the PWC-150 method.

The study involved young athletes - swimmers aged 13-15, who swim in the pools of Yunusabad and Mirzo-Ulugbek district of Tashkent city. 50 boys - swimmers aged 13-15 years were examined. Qualification: ranks III, II, I and candidate of masters are distributed by age groups: 13-year-olds (38%-52%-9.5%-0% in the order of listing of ranks); 14-year-olds (20%-48%-28%-4%) and 15-year-olds (10%-45% 32%-13%) respectively.

Discussion of results: Total body sizes characterize the processes of growth and physical development. There are normative average statistical standards of total body size indicators for each age group, although there may be individual variation features: genetic predisposition, socio-economic conditions for each ethnic group, etc.

As is known, boys aged 13-15 experience the most intensive growth in body length, the so-called growth spurt, followed by a slowdown in growth processes. Thus, the normal annual increase in average statistical boys aged 13-15 is 5.8 cm. In young swimmers, the annual increase in body length was 8-9 cm on average. This length indicator characterizes the

intensity of growth processes in young swimmers compared to their peers who do not engage in sports. The same trend is maintained both in terms of weight and chest circumference.

Table 1.

Morphological indicators of 13-15 year old boy swimmers

	<i>Indicators x+o</i>	<i>Age, years</i>		
		<i>13 years old</i>	<i>14 years old</i>	<i>15 years</i>
		n= 18	n= 17	n= 18
1	<i>body length, cm</i>	155.25±5.81	164.47±7.33	173.02±6.7
2	<i>weight, kg</i>	43.8±7.06	49.63±7.49	61.33±9.28
3	<i>arm length, cm</i>	66.5±8.57	76.55±6.98	78.68±4.26
4	<i>leg length, cm</i>	85.74±4.85	89.87±5.21	94.3±4.32
5	<i>shoulder width, cm</i>	31.95±1.8	34.69±2.87	37.43±2.67
6	<i>chest circumference, cm</i>	76.03±5.48	80.08±4.75	88.12±5.41
7	<i>arm length/body length, %</i>	43.77±2.8	44.23±1.28	45.83±1.91
8	<i>leg length/ body length,%</i>	55.66±1.43	54.18±1.68	55.01±1.46
9	<i>YELLOW, L</i>	3.08±0.46	3.53±0.61	4.35±0.77
10	<i>Dead strength, kg</i>	82.88±19.19	87.08±18.58	110.75±27.90

High growth rates are also noted for the vital capacity and deadlift strength indicators, i.e. there is a natural increase in functional indicators. A close relationship is noted between anthropometric characteristics, the age of young swimmers, on the one hand, and the heart rate and the growth of physical performance, on the other. If with age, swimmers have a decrease in heart rate, then the PWC-150 indicator shows an increase in the level of physical performance. This indicator indicates that young athletes can perform high-power short-term work.

Conclusions:

A) young swimmers aged 14-15 years show greater increases in such indicators as chest circumference, vital capacity and deadlift strength compared to their peers who do not engage in sports;

B) already at the age of 13-15 years, the formation of body proportions in boy swimmers occurs according to the dolichomorphic type.

B) a relationship is noted between anthropometric characteristics and physical performance of young athletes, which can be used as a standard indicator for assessing the body's adaptability to muscular work.

The accumulated material will allow us to create a morphological portrait of young swimmers, as well as determine the dynamics of individual indicators for them in the age range of 13-15 years.

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