

PHYSICAL WORKING CAPACITY OF CHILDREN OF YOUNG SCHOOL AGES WHICH ARE SWIMMING

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Keywords: Physical working capacity, motor preparation, functional state, physical development, motor activity.

Summary

In this article, we study the effect of complexes impact on the development of motor qualities, based on physical loads of varying power and intensity, on the physical working capacity of pupils in experimental groups.

Introduction

This study is due to the fact that the main problem of the near future of our country is the health of the younger generation, as the entire economic and creative potential, all the prospects for a high standard of living, science and culture - all this is the result of the level of children's health, physical and intellectual performance [9]

However, many facts cause acute concern for the health of the younger generation. With the entry into the school, the motor activity of children decreases by 50%, which causes deterioration in health, rapid fatigue during the school day, reduces the level of physical and mental performance and also inhibits their normal physical development. About 30% of school-age children constitute a risk group. After 18 years, they begin to manifest such diseases as diabetes, hypertension, and atherosclerosis.

Objectives of the study: Determination of the initial level of physical performance, as a factor that determines the physical ability of younger pupils.

Methods of research: Generalization of scientific and methodological literature; pedagogical observations; pedagogical experiment; control tests; definition of physical working capacity; methods of mathematical statistics.

A number of authors [1, 3, 4] established a close relationship between physical working capacity, motor preparedness and functional

state of children with different levels of physical development. At the beginning of the basic pedagogical experiment, the initial data of the experimental groups characterizing the functional state of children with a low level of development of motor qualities were evaluated (Table 1).

Table 1. Initial data of functional readiness 8 - year - old schoolchildren of experimental groups.

Groups	Boys			Girls		
	n	M + m	P	n	M+m	P
<i>Total physical working capacity (kgm / min)</i>						
EG	23	247,7 18,3	>0,5	26	228,9 17,5	>0,5
CG	27	248,0 11,0		22	227,7 11,9	
<i>Relative physical working capacity (kgm / min / kg)</i>						
EG	23	9,21 0,26	>0,5	26	9,01 0,34	>0,5
CG	27	9,43 0,25		22	8,93 0,33	
<i>Pulse of rest (bpm)</i>						
EG	23	84,7 1,91	>0,5	26	84,6 1,67	>0,5
CG	27	82,5 2,81		22	82,9 2,42	
<i>Maximum blood pressure (mmHg)</i>						
EG	23	97,4 1,77	>0,5	26	97,8 1,47	>0,05
CG	27	99,4 1,71		22	93,3 1,46	
<i>Minimal blood pressure (mmHg)</i>						
EG	23	53,2 2,03	<0,1	26	54,5 1,49	<0,5
CG	27	58,3 1,71		22	52,5 1,82	

Legend: SD - source data; KD - data at the end of the school year.

Comparison of the results of absolute and relative average values of physical working capacity of schoolchildren in experimental groups showed no significant differences ($P > 0.5$). In terms of pulse at rest and blood pressure in most cases, statistically significant differences are absent ($P > 0.05 - 0.1$). The exception is the data of maximum blood pressure, where the EG girls had a higher blood pressure than their peers from the control group ($P < 0.5$).

With a view to the justified choice of the means and methods for the development of motor qualities in the pedagogical experiment, we attempted to solve the problem of the possibilities and prospects of optimizing the learning process in the framework of the established motor mode [6, 7] by differentiating the approach in the application of special preparatory exercises and non-traditional Means of physical education. We proposed special sets of exercises with a primary focus on the development of motor qualities from September to December 2016

for 30 lessons of physical culture and 26 lessons in the pool with pupils of experimental groups.

These exercises were performed predominantly in a circular, playful and competitive manner, which increased the interest of those involved and caused them positive emotions. Costs of time in one class during the school year were planned taking into account the data characterizing the structure of motor fitness for children with an average level of development of motor qualities. Classes in the basin were held twice a week, according to the program providing for a 26-rate swimming training course [5, 8].

An integrated approach to the development of motor qualities, based on physical loads of varying power and intensity, had a beneficial effect on the health of schoolchildren in experimental groups. It is known that one of the objective criteria of human health is the level of physical working capacity [2].

The data we obtained about the dynamics of physical working capacity during the school year, as shown in Table 2, are quite indicative in this respect of human health is the level of physical working capacity.

Table 2. Characteristics of changes in the physical working capacity of schoolchildren in experimental groups

Groups	Periods of the study	Boys		Periods of the study	Girls	
		M + m	P		M+m	P
<i>Total physical working capacity (kgm / min)</i>						
EG	S.D. K.D.	247,7 18,3 315,4 16,7	<0,01	S.D. K.D.	228,9 17,5 309,4 10,8	<0,001
CG	S.D. K.D.	248,0 11,0 282,3 16,5	<0,5	S.D. K.D.	227,7 11,9 261,2 14,8	<0,01
<i>Relative physical working capacity (kgm / min / kg)</i>						
EG	S.D. K.D.	9,21 0,26 11,81 0,32	<0,001	S.D. K.D.	9,01 0,34 11,33 0,31	<0,001
CG	S.D. K.D.	9,43 0,25 9,78 0,43	<0,5	S.D. K.D.	8,93 0,33 9,22 0,38	>0,5

Analysis of data on the level of physical working capacity of schoolchildren EG and CG allowed establishing significant changes, both in boys and girls in EG: in boys the result improved by 67.7 kg / min; in

girls - at 80.5 kg / min. In boys, the magnitude of changes was 34.3 kg / min, for girls 33.5 kg / min.

It is noteworthy that the girls of the EG have lower initial data than boys (by 18.8 kgm / min), by the end of the pedagogical experiment they have practically reached the level of physical working capacity of boys.

Indicators of relative physical working capacity revealed statistically significant increases in schoolchildren EG: in boys - by 2.6 kg / min / kg; in girls - by 2.32 kg / min / kg. The degree of reliability of differences in all cases is $P < 0.001$. In the control groups, the relative physical performance shifts were insignificant - $P < 0.5$ and $P > 0.5$.

The results of the pedagogical experiment confirmed the hypothesis that the integrated use of physical education with a primary focus on the development of motor qualities against the background of increased efficiency effectively affects their accelerated development.

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