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SPECIAL TESTS "ALPOMISH" AND "BARCHINAY" AS A  
DETERMINANT OF PHYSICAL FITNESS OF STUDENTS OF YOUTH

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**ABSTRACT:**

The tendency level of college students physical quality progress is considered in this article. The author introduces the results of physical preparation of colleges and lyceums students of the republic, based on special tests "Alpomish" and "Barchinoy".

**Relevance.** A radical renewal of society is accompanied by the search and finding of means that ensure the free development of all reserves of the spiritual and physical development of the individual. Awareness of the individual as the highest value of the educational process requires the creation of such a sociocultural environment for her in which she can fully realize her strength and abilities. Many experts emphasize that in this regard, the problem of the formation of a healthy lifestyle appears at all age stages as a problem of the present. An active creative, professional, social activity and life goals of future specialists, who have to propagate and implement the acquired knowledge, in their families, in life, in their professional teams, skills and abilities of a healthy lifestyle, largely depend on its decision [5,6].

In the Address of the President Sh. Mirziyayev to the Oliy Majlis dated December 29, 2018: "We will continue to attach great importance to the accelerated development of sports, stimulation and support of athletes who have achieved high results in international competitions. In order to popularize sports among the young generation, we are creating children's and youth sports schools in the most remote areas "[2], - this served as an impetus for more dynamic development of reforms in this direction.

In connection with the implementation of the Decree of the President of the Republic of Uzbekistan “On an action strategy in the five priority areas of the development of the Republic of Uzbekistan in 2017-2021”, a large-scale work is being carried out in the country aimed at creating conditions corresponding to modern requirements for the systematic physical education and sports of all segments of the population, the young generation, strengthening youth’s confidence in their abilities and capabilities through sports competitions, fostering courage, a sense of patriotism and devotion to the motherland, as well as improving the selection system of talented athletes, further developing physical culture and sports in general.

Therefore, in recent years, a number of regulatory legal acts in this direction have been signed in our country. The adoption on June 3, 2017 of the Decree “On measures for the further development of physical culture and mass sports”, on March 5, 2018, the Decree “On measures for the radical improvement of the state system in the field of physical culture and sports” and, in accordance with this Decree, the transformation of the Republican Committee on physical culture and sports to the Ministry, as well as the Resolution of the Cabinet of Ministers of January 29, 2019 "On the promotion of a healthy lifestyle, the widespread involvement of the population in physical education and sports in Uzbekistan" and the Resolution of February 13, 2019 "On the approval of the Concept of development of physical culture and mass sports in Uzbekistan for the period 2019-2023 "[1,3], indicate the beginning of a new stage in the field of physical culture and sports in Uzbekistan.

On the basis of the Decree “On the promotion of a healthy lifestyle, the wide involvement of the population in physical education and sports in Uzbekistan”, the country introduced special tests “Alpamish” and “Barchinay”, which include sports standards that determine general physical fitness (PKM from 29.01 .2019, No. 65).

Under the chairmanship of the President of the Republic of Uzbekistan Shavkat Mirziyoyev on March 19, 2019, a video-conference was held on the issues of increasing attention to youth, attracting them to spiritual development, art and sports, developing skills in the correct use of information technology, promoting reading books among the young generation and ensuring women's employment.

Thirty percent of the population of our country is young people aged 14 to 30 years. Created modern conditions and ample opportunities for obtaining knowledge and professions. However, the urgent issue is the organization of meaningful leisure for youth. The higher the spirituality of youth, the stronger its immunity to alien phenomena [4] .

Based on the relevance of the study, in our work an attempt was made to introduce recreational and independent activities in the lifestyle of students in secondary specialized institutions, taking into account their physical activity, physical condition and professional and applied orientation, and the aim of the study was to determine the anthropometric indicators and functional readiness of students in secondary specialized institutions in the city of Gulistan in preparation for passing the Alpomish and Barchina tests.

The research objectives included:

1. Determining the attitude to the classes of FC and C and actually to your health in the learning process by means of a questionnaire survey of students of secondary specialized institutions.

2. Surveys of physical fitness of students in secondary special institutions, both boys and girls aged 15-17 years, for passing special tests "Alpomish" and "Barchina".

3. Analysis of indicators of the functional development of students in secondary specialized institutions.

Experimental part. To solve this problem, an analysis of the data of a questionnaire survey of students in relation to the classes of FC and C and actually to their health in the learning process, materials of a survey of physical fitness of students to pass special tests "Alpomish" and "Barchina", an analysis of indicators of functional development of students .

In her studies, R.A. Burkhanova found that 95% of students in secondary specialized educational institutions do not possess systemic knowledge and beliefs in the need for a healthy lifestyle, which indicates their low awareness in this area of life, reduces the possibility of transferring acquired knowledge and practical skills to the culture of academic and professional work, life, recreation, nutrition, sleep, communication, overcoming bad habits. Up to 38% of students do not use physical education to optimize their physical condition, and every fifth does not even do this sporadically. As a result, they do not develop the ability to self-determination in a healthy lifestyle, expressing the attitude of the individual to himself, his health, psychophysical state, the regime of physical and intellectual stress, the rational use of free time, etc.

Studies conducted by a number of authors aimed at studying the attitude of students to physical education and sports were conducted at universities in Kazakhstan. According to the questionnaire, self-esteem of the needs and motives for physical education and sports among students is below the average level, which suggests that physical education and sports are not part of the spiritual image of a future specialist. But most students (75%) seek to maintain the health and performance of the body. The question "recognition of the importance of physical culture and sports in everyday life" was answered in the affirmative -52.6% and 67% did not have a call for physical education and sports, but 80% were quite convinced of the positive impact of sports: they recognize a healthy lifestyle. However, they still have not formed strong beliefs (needs 26.2%) and special knowledge about the benefits of physical activity.

At the same time, physical education and sports are bringing 76.8% closer to the team, broadening their horizons, and the social circle - 63.5%, equipping them with knowledge and practical skills in physical education and sports, and helping them to learn.

Studies in universities, humanitarian profile, conducted by V.M. Barshai, showed that the goal formed by the program and the department of physical education is not at all a goal for students. Their physical education goals are presented differently: get a credit on the subject -65%, have no punishments — 21%, improve physical fitness and improve health — 8.5%, gain positive experience for a healthy lifestyle — 4%, and create your physical culture - 1.5%.

As confirmed by research, the health and physical fitness of young people is

declining every year. Therefore, the pace of modern life and professional requirements become unbearable for them.

According to experts, training sessions as the main form of training, independent extracurricular work (self-study), an examination session, as the most intense stage of educational activity affect the daily routine, nutrition, sleep, rest, health, lead to morbidity of students.

In this regard, the use of various forms of physical culture and methodological techniques have an extremely important role.

One of the most effective ways of counteracting negative factors (violation of the hygienic requirements of the daily regimen, nutrition, adverse environmental factors, bad habits, etc.), according to L.M. Volkov, is to observe the rules of a healthy lifestyle. The author determined that the state of human health is most 50% dependent on lifestyle, and the remaining 50% falls on: ecology - 20%, heredity - 20%, medicine - 10%. In turn, in a healthy lifestyle, the main role is given to properly organized motor activity, which is about 30% of 50%.

For the correct and effective organization of a healthy lifestyle, it is necessary to systematically monitor your lifestyle and strive to observe the following conditions: sufficient physical activity, proper nutrition, the presence of clean air and water, constant hardening, possibly a greater connection with nature, compliance with personal hygiene rules, refusal bad habits.

Results and its discussion. Physical development is a complex, collective concept; therefore, the features that characterize it are diverse. However, as the main signs of physical development, we took the length and body weight, chest circumference - the signs necessary to characterize the weight and shape of the body. When determining physical development, JELL and muscle strength were also essential for us.

The study of physical development at the beginning of the pedagogical experiment made it possible to determine the shapes, sizes, and also some of the functional capabilities of the body.

Multiple studies of physical development in preparation for passing the special tests "Alpomish" and "Barchina" by students of colleges and lyceums are of great importance for observing the effect of physical exercises on the formation of morphological and functional parameters of students. In our research, we used such a research method as anthropometry (somatometry).

Body length is the most constant somatic trait. It is less than others, changes under external influence, but is of great importance when playing sports.

The proportions of the body of athletes are estimated using the most common and widely available index method. It allows using simple calculations to characterize the ratio of body parts. Typically, a smaller size is expressed as a percentage of the larger. According to a combination of different indices, three main types of body proportions are distinguished: dolichomorphic — long legs, short and narrow body; brachymorphic - short legs, long wide body, mesomorphic - medium size variant.

The diagnostic capabilities of indices in the characterization of physical development as a whole are very limited. However, they are suitable for a partial assessment of any of its parties, provided that their interpretation

does not go beyond the framework of a specific issue, the coverage of which is intended for the index.

The Kettle index indicates the correspondence of body weight to its length. For boys and girls aged 15-17 years, 19-24.9 g / cm are considered normal index values.

Thus, according to the results of preliminary testing of the growth and weight of college and lyceum students, the Kettle index of young men aged 15-17 in the control group was  $20.6 \pm 0.5$  g / cm, while in the experimental group it was  $19.8 \pm 0.4$  g / cm. For girls, this indicator had the following values - in the control group  $21.7 \pm 1.2$  g / cm, in the experimental group  $21.1$  g / cm. What is characterized as normal weight.

Analyzing the results of dynamometry of students in colleges and lyceums, we determined that the young men in the control group showed a result in dynamometry of the right and left hands on average  $32.3 \pm 9.9$  kg;  $29.7 \pm 8.4$  kg, and in the deadweight dynamometer -  $72.2 \pm 4.4$  kg. The young men of the experimental group in the dynamometry of the right and left hands performed this exercise with the following indicators  $32.8 \pm 7.4$ ;  $28.2 \pm 6.4$ , in the deadweight  $73.2 \pm 4.4$ .

The girls of the control group, in turn, showed a result in dynamometry of the right hand equal to  $17.5 \pm 1.6$  kg, the left -  $13.5 \pm 0.2$  kg, the back -  $59.4 \pm 4.5$  kg. Their peers from the experimental group fulfilled this indicator with the following result: dynamometry of the right hand -  $17.8 \pm 1.2$ , left -  $13.7 \pm 1.0$ , deadlift -  $59.7 \pm 4.7$  kg.

The correct assessment of the functional state of the student's body is one of the main tasks of the joint work of the teacher and doctor. Determination and assessment of the physical state of organs and systems of the body, i.e. definition of its functional abilities are called functional diagnostics. Functional tests are used to determine physical abilities.

Using functional tests, we determined the effect of physical exercises on the body, which significantly helped in dosing physical activity, its individualization and optimality.

Thus, an analysis of heart rate (HR) for 1 minute showed that at rest for young men in the control group this indicator is  $66.3 \pm 7.4$  beats / min, and for their peers from the experimental group -  $69.3 \pm 5.9$  beats / min. The heart rate in girls at the beginning of the experiment in the control group was  $66.6 \pm 7.2$  beats per minute, and  $66.2 \pm 6.4$  beats / min in the experimental group.

The data obtained during spirometry showed that for young men in the control and experimental groups this indicator averaged  $3544 \pm 45.2$  ml;  $3679 \pm 49.6$  ml. In girls, respectively -  $3024 \pm 158.6$ ;  $115.4$  ml.

Determination of the excursion of the chest, by the method of determining the difference between the girth of the chest with full inhalation and expiration, showed that this indicator in young men of the experimental group is on average  $5.3 \pm 0.7$  cm, in the experimental group  $5.2 \pm 0.7$  cm. For girls, it was  $3.7 \pm 0.1$  in the control and  $2.7 \pm 0.2$  in the experimental group.

In a study of the students' ability to hold their breath when they exhale completely, it was shown that in the boys of the control group this indicator averaged  $46.8 \pm 6.2$  seconds, in the boys of the experimental  $51.5 \pm 5.4$  seconds. The girls of the control and experimental groups showed a result,

respectively, of  $47.3 \pm 5.6$ ;  $41.8 \pm 6.3$  sec.

As regards such an indicator of the compensatory abilities of the body as the respiratory rate (BH), according to our data, it was an average of  $19.1 \pm 1.9$  for young men in the control and experimental groups;  $17.4 \pm 3.9$  breaths per minute. In girls, the surface nature of respiration was  $19.0 \pm 1.8$  in the control group and  $22.4 \pm 3.1$  respiration per minute in the experimental group. Based on the dependence of the respiratory rate on the age of the students, according to the literature, it can be said that the studied indicator in college students is much higher than the figure given in literary sources (16-18 cycles per minute).

Correspondingly to the respiratory rate, an indicator of the minute volume of breathing was determined, which among students in the control and experimental groups was:  $13,513 \pm 722$  ml for young men in the control group and  $10,854 \pm 725$  ml in the experimental group. For girls, this indicator averaged  $13584 \pm 662$  in the control group and  $9724 \pm 686.8$  ml in the experimental group.

When assessing the level of blood pressure in students in the control and experimental groups, the following indicators were determined: in young men in the control group, the level of systolic blood pressure averaged  $132.6 \pm 6.2$  mm Hg, diastolic blood pressure -  $83.2 \pm 7, 4$  mmHg, respectively, the pulse pressure was  $50.0 \pm 4.9$  mmHg; in the experimental group, the level of SBP was on average  $126.2 \pm 12.4$  mm Hg, and the DBP was  $80.3 \pm 4.9$  mm Hg, therefore, the PAD was  $45.1 \pm 9, 9$  mmHg

In turn, the following indicators were determined for the girls in the control and experimental groups: in the control group, GARDEN -  $132.9 \pm 6.2$ ; DBP -  $83.8 \pm 6.7$ ; PD -  $50.0 \pm 5.2$ ; in the experimental group, CAD -  $120.5 \pm 10.5$ ; DBP -  $80.4 \pm 5.1$ ; PD -  $40.2 \pm 9.0$ .

Based on the norms, the ratio of systolic and diastolic blood pressure indices given in the literature, it is possible to determine the functional state of the organism under study at the time the experiment began as normal.

As for the stroke volume of blood, according to our data, the following indicator was determined for students of colleges and lyceums, which amounted to  $57.6 \pm 4.4$  l for young men in the control group and  $60.1 \pm 7.4$  l in the experimental group. For girls in the control group, this indicator averaged  $57.1 \pm 6.5$ , and for their peers from the experimental group -  $62.4 \pm 5.6$  l.

In calculating the minute volume of blood, we determined that for students in the control group, on average  $4.01 \pm 0.4$  l from the heart enters from the heart in 1 minute, and for students in the experimental group it is  $4.17 \pm 0.5$  l. In girls of the control group, this indicator is  $3.6 \pm 0.8$  l, in the experimental group -  $4.2 \pm 0.4$  l.

When comparing with literature data on proper blood volume coming from the heart in 1 minute, it was determined that at this age it should be approximately 5-7 liters, which, in turn, indicates an insufficient level of development of the cardiovascular system of students at the time of the preliminary study.

Physical performance, which is an indicator of the function of several body systems and, in particular, the cardiovascular, respiratory, blood, nervous system, was determined using the Harvard step test.

For example, according to our data, the average Harvard step test index (IGST) was  $54.9 \pm 7.2$  for young men in the experimental group and  $56.2 \pm 3.6$  in the experimental group.

IHST in girls of the control group was equal to an average of  $45.8 \pm 3.4$ ; in their peers from the experimental group, IHST was  $46.3 \pm 2.0$ .

Based on the data provided in the literature, it can be determined that the level of physical performance of young men is considered poor, and among girls - very poor (see table 1).

**Table 1: Anthropometric and functional indicators of college students and lyciums of the experimental and control groups at the beginning of the experiment**

№	Parameters	Survey results							
		Young men n=150		t	P	Girls n=50		t	P
		KG	EG			KG	EG		
		X±m	X±m			X±m	X±m		
1	Rosto - Kettle weight index	20,6±0,5	19,8±0,4	1.6	>0,05	21,7±1,2	21,1±0,5	1.9	>0,05
2	Dynamo right hand (kg)	32,3±9,9	32,8±7,4	0.11	>0,05	17,5±1,6	17,8±1,2	1.4	>0,05
3	Dynamo left hand (kg)	29,7±8,4	28,2±6,4	0.3	>0,05	13,5±0,2	13,7±1,0	1.3	>0,05
4	Dynamo deadweight (kg)	72,2±4,4	73,2±4,4	0.6	>0,05	59,4±4,5	59,7±4,7	0.2	>0,05
5	Spirometry (ml)	3544±45,2	3679±49,6	0.02	>0,05	3024±158,6	3263±115,4	1.2	>0,05
6	Excursion of the chest (cm)	5,3±0,7	5,2±0,7	0.21	>0,05	3,7±0,1	2,7±0,2	0.2	>0,05
7	Harvard Step Test Index	54,9±7,2	56,2±3,6	0.4	>0,05	45,8±3,4	46,3±2,0	0.6	>0,05
8	Heart rate in 1 min.	66,3±7,4	69,3±5,9	0,9	>0,05	66,6±7,2	66,2±6,4	0,4	>0,05
9	Breath holding (sec)	46,8±6,2	51,5±5,4	1,8	>0,05	47,3±5,6	41,8±6,3	0,2	>0,05
10	Respiratory rate (min)	19,1±1,9	17,4±3,9	1,8	>0,05	19,0±1,8	22,4±3,1	0,7	>0,05
11	Systolic. blood pressure (mmHg)	132,6±6,2	126,2±12,4	1,6	>0,05	132,9±6,2	120,5±10,5	0,4	>0,05
12	Diastolic. blood pressure (mmHg)	83,2±7,4	80,3±4,9	0,9	>0,05	83,8±6,7	80,4±5,1	0,3	>0,05

13	Pulse pressure (mmHg)	50,0±4,9	45,1±9,9	1,6	>0,05	50,0±5,2	40,2±9,0	0,4	>0,05
14	Minute breathing capacity	13513±7 22	10854±7 25	0,3	>0,05	13584±66 2	9724±686,8	0,3	>0,05
15	Stroke volume of blood	57,6±4,4	60,1±7,4	1,1	>0,05	57,1±6,5	62,4±5,6	0,4	>0,05
16	Minute volume of blood	4,01±0,4	4,17±0,5	1,4	>0,05	3,6±0,8	4,2±0,4	0,6	>0,05

Since literary sources indicate that if the IGST is below 50, then physical performance is considered very poor, with numbers 51-60 - poor, 61-70 - sufficient, 71-80 - good, 81-90 - very good, more than 91 - excellent.

### Conclusions

1. An analysis of the data from a questionnaire survey of students at colleges and lyceums showed that the attitude to the classes of FC and C and to their own health in the learning process rises to a rather high level. We determined that at the end of the study, most of the students became involved in a healthy lifestyle and began to pay more attention to physical education and sports.

2. The materials of the physical fitness examination of college and lyceum students, both boys and girls aged 15-17, show the insufficient development of the physical qualities necessary for passing the special tests "Alpomish" and "Barchina".

2. When analyzing the indicators of the functional development of college and lyceum students, the insufficient development of the cardiovascular system was determined.

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