Volume 2, Issue 03, March 2024 **ISSN (E):** 2938-379X

THE FUNCTIONAL STATE OF THE CARDIOVASCULAR SYSTEM OF ADOLESCENTS UNDER VARIOUS PHYSICAL ACTIVITIES

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Abstract:
A scientific study was conducted on students from grades 7 to 10, 3 boys and 3 girls were selected from each class, in which various indicators of the functional state of adolescents were measured. The total number of students who took part in the scientific experiment is 48 students.

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Introduction

The purpose of the research is to study the functional state of the cardiovascular system of students of different ages from 14 to 17 years old. The relevance of studying this problem is the identification of a large number of diseases of the cardiovascular system in children and ways to solve this problem in the younger generation.

Material and methods. At the first stage of the study, the weight and height of schoolchildren were studied and based on these data, their body mass indices (BMI) were calculated. The following website was used to calculate BMI: www.msdmanuals.com A tape measure was used to measure height, and electronic floor scales up to 180 kg were used to measure weight. After receiving the results of the study of height, weight and BMI, the 2nd stage of the study was initiated, i.e. the measurement of chest volume (ChV) in three states: in normal condition, with deep inhalation and with deep exhalation. A large role in this process was played by the centimeter tape, thanks to which we studied the ChV of students. The most recent and important element of the study was the measurement of blood pressure (SBP and DBP) and pulse. Device for determining blood pressure: automatic blood pressure monitor B.Well Pro-35 with anatomical cuff 22-42 cm. The results of the study are shown in Table 1 and table 2 below.

Table 1. Measurement of students' height, weight, pulse and blood pressure in the norm.state

№	Full name of the students	Gender	Date of birth	Weight, kg	Height, cm	Body mass index, kg/m2	SBP. is fine.comp.	DBP. in the norm.comp.	Pulse is normal.comp.
1	Sunnatulaev Saidazim	man	06.01.2011	51	168	18,07	105	68	81
2	Yusupov Umarjon	man	17.09.2010	63	167	22,59	115	59	75
3	Zuparov Botir	man	20.04.2010	39	151	17,1	97	70	84
4	Islomxodjaeva Munavvar	woman	03.08.2010	46	158	18,42	91	73	79
5	Akromxodjaeva Sitoraxon	woman	28.07.2010	56	167	20,08	114	54	76
6	Akmalxodjaeva Durdonaxon	woman	28.05.2011	51	160	19,92	104	69	107
7	Komiljonov Ibroxim	man	18.07.2010	33	151	14,47	96	66	89
8	Baxtiyorov Abuzar	man	26.07.2010	44	162	16,76	119	68	100
9	Alimov Ilyas	man	07.07.2010	47	166	17,05	102	66	85
10	Turaxodjaeva Madinaxon	woman	16.01.2011	51	161	19,67	117	69	76
11	Sultanbaeva Maxliyo	woman	07.10.2010	39	152	16,88	104	67	110
12	Mirpulatova Solixa	woman	01.03.2011	43	169	15,05	83	44	87
13	Aripdjanov Muxammadaziz	man	04.03.2010	48	173	16,04	99	61	97
14	Bunyodjonov Abdulaziz	man	22.10.2009	53	165	19,46	109	64	96
15	Gafurov Kamron	man	17.01.2009	43	163	16,18	107	68	91
16	Vaxobova Rayxon	woman	07.07.2010	56	170	19,37	122	85	107
17	Xasanova Saida	woman	27.08.2010	44	163	16,56	88	63	103
18	Maxammadjonova Mubina	woman	10.09.2009	49	155	20,39	98	53	90
19	Otajonov Ibroxim	man	20.04.2010	58	163	21,83	128	86	75
20	Aliev Islombek	man	16.08.2009	73	161	28,16	133	62	98
21	Obidjonov Abdumomin	man	28.03.2010	54	162	20,57	118	83	91
22	Aminova Mubina	woman	14.01.2010	35	156	14,38	96	69	92
23	Abbosova Rayyona	woman	17.02.2010	68	170	23,53	90	57	79
24	Avliyoxojaeva Robiya	woman	22.02.2010	50	168	17,71	113	57	104
25	Erkinov Saydullox	man	26.09.2008	53	171	18,12	92	62	93
26	Polatbaev Ibroximboy	man	02.03.2008	40	164	14,87	90	77	86
27	Usmonov Asad	man	19.08.2008	53	175	17,3	106	63	73
28	Abduraxmonova Oysha	woman	04.11.2008	60	167	21,51	98	76	89
29	Xoshimjonova Madina	woman	27.11.2008	47	162	17,91	95	72	86
30	Muratova Xofizaxon	woman	24.12.2008	50	165	18,36	105	61	72
31	Otajonov Sardorbek	man	31.08.2008	64	176	20,66	115	72	108

32	Axmedov Davronbek	man	22.10.2008	50	167	17,93	95	64	75
33	Shukurov Iskandar	man	26.04.2008	62	171	21,2	118	89	84
34	Okilova Samiyaxon	woman	25.01.2009	50	164	18,59	102	76	99
35	Obitova Madinaxon	woman	15.10.2008	41	156	16,84	122	76	108
36	Abduxamidova Shaxrizoda	woman	29.08.2008	64	170	22,14	96	58	105
37	Ismoilov Iskandar	man	03.04.2008	78	176	25,18	107	73	94
38	Mirfozilov Mirodil	man	20.11.2007	58	181	17,7	104	67	100
39	Shokirov Orifjon	man	26.10.2007	61	171	20,86	92	54	74
40	Abbosova Omina	woman	17.04.2008	45	166	16,33	105	71	98
41	Jamoliddinova Lazizaxon	woman	05.12.2007	53	158	21,23	97	57	98
42	Safaeva Ruxshona	woman	02.07.2008	60	172	20,28	102	57	90
43	Ortikov Abduboriy	man	22.02.2008	46	172	15,55	95	58	73
44	Ziyodbotirov Ziyanatullov	man	14.09.2007	63	187	18,01	108	79	95
45	Mirmaxsudov Ismoil	man	23.12.2007	59	168	20,9	110	61	83
46	Tolipova Dilnura	woman	08.07.2008	46	154	19,39	100	54	91
47	Jumanova Aziza	woman	19.11.2007	45	160	17,58	89	49	77
48	Erkinova Lobar	woman	10.06.2007	58	167	20,79	89	65	100

Table 2. Measurement of heart rate and blood pressure after 20 squats, chest circumference is normal a state of deep inhalation and exhalation.

№	Full name of the students	SBP after 20 squats.	DBP. after 20 squats.	Pulse after 20 squats.	Ch V. in the norm.comp.	Ch V. at a depth of.inhale	Ch V. with a deep breath
1	Sunnatulaev Saidazim	113	72	113	75	78	73
2	Yusupov Umarjon	119	63	137	80	84	78
3	Zuparov Botir	134	79	104	70	72	68
4	Islomxodjaeva Munavvar	110	76	110	79	81	78
5	Akromxodjaeva Sitoraxon	120	74	119	91	93	89
6	Akmalxodjaeva Durdonaxon	121	119	125	81	85	79
7	Komiljonov Ibroxim	92	56	109	64	68	62
8	Baxtiyorov Abuzar	71	74	69	71	74	69
9	Alimov Ilyas	121	71	104	77	80	75
10	Turaxodjaeva Madinaxon	116	68	102	83	85	81
11	Sultanbaeva Maxliyo	108	71	133	73	76	71
12	Mirpulatova Solixa	80	70	130	68	70	65
13	Aripdjanov Muxammadaziz	96	58	124	73	78	69
14	Bunyodjonov Abdulaziz	122	92	116	80	84	77
15	Gafurov Kamron	130	61	98	73	76	71
16	Vaxobova Rayxon	131	75	126	72	75	70
17	Xasanova Saida	90	74	104	75	78	74

18	Maxammadjonova Mubina	76	55	96	63	65	61
19	Otajonov Ibroxim	111	52	79	82	86	80
20	Aliev Islombek	126	67	127	89	93	86
21	Obidjonov Abdumomin	131	59	113	83	86	82
22	Aminova Mubina	105	72	103	72	75	69
23	Abbosova Rayyona	112	63	95	95	97	93
24	Avliyoxojaeva Robiya	125	74	121	78	82	75
25	Erkinov Saydullox	95	72	113	80	83	77
26	Polatbaev Ibroximboy	114	83	105	69	72	65
27	Usmonov Asad	95	67	124	71	75	68
28	Abduraxmonova Oysha	106	84	102	87	90	85
29	Xoshimjonova Madina	115	92	94	86	88	83
30	Muratova Xofizaxon	123	84	109	88	90	85
31	Otajonov Sardorbek	96	74	110	76	79	74
32	Axmedov Davronbek	112	78	97	74	76	72
33	Shukurov Iskandar	131	102	102	86	88	83
34	Okilova Samiyaxon	104	75	113	81	85	79
35	Obitova Madinaxon	96	85	124	75	78	71
36	Abduxamidova Shaxrizoda	114	73	123	85	89	81
37	Ismoilov Iskandar	132	98	119	84	87	82
38	Mirfozilov Mirodil	103	68	114	79	82	77
39	Shokirov Orifjon	123	75	102	78	80	75
40	Abbosova Omina	125	84	121	87	91	85
41	Jamoliddinova Lazizaxon	98	63	108	83	85	81
42	Safaeva Ruxshona	123	74	94	85	88	82
43	Ortikov Abduboriy	114	63	85	80	83	77
44	Ziyodbotirov Ziyanatullov	126	84	107	83	87	80
45	Mirmaxsudov Ismoil	105	72	110	77	80	75
46	Tolipova Dilnura	125	82	98	79	81	77
47	Jumanova Aziza	95	64	113	81	84	78
48	Erkinova Lobar	120	72	125	82	85	79

Thus, we found that some students had an increase in heart rate, systolic blood pressure (SBP) and diastolic blood pressure (DBP) after physical activity. Analyzing the data obtained from the blood pressure measurements of students, we can conclude that each student is unique and his cardiovascular system differs from other students. It depends on the mental and physical activity of the body, that is, playing sports, solving problems, reading books improves the cardiovascular condition of schoolchildren.

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