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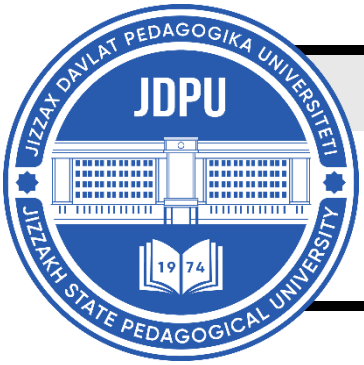

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL

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EFFECTIVENESS OF DEVELOPING THE PHYSICAL PREPARATION OF SKILLED HANDBALL PLAYER GIRLS' WITH THE HELP OF CIRCULAR TRAINING

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ABOUT ARTICLE

Key words: rotational training, female students, qualified handball players, training, stantsiyalar.

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Abstract: In this article, a training program was used to increase the physical fitness of female handball players, as a result of which the study observed that the physical fitness of female students increased.

INTRODUCTION

In the modern stage of sports training, the volume and intensity of training has reached great values, even in women's sports. This also fully applies to handball, where the ever-increasing stress of competitive activity of handball teams leads to a decrease in the volume of functional training [3,4,7,12].

The effectiveness of handball players' competitive activity is determined to a large extent by the level of development of physical qualities, both the training process and the direct game contribute to their comprehensive formation. For example, in the sport of handball, "rotation training" affects different muscle groups through well-mastered exercises, improves technical skills and physical qualities, and so on. The tools used in "circuit training" usually consist of a set of 5-10 different types of exercises that mobilize the body and muscle groups at once. At the beginning, exercises that develop general physical fitness are performed with a certain number of repetitions, for example: 1-2 exercises to develop the shoulder girdle, 2 exercises to develop the muscles of the front of the body, 2 exercises to develop the muscles of the legs, 2 exercises to affect the body in general, in addition to flexibility, agility, movement coordination, etc. [1,2,5,6].

The purpose of the study is to improve the physical qualities of skilled handball girls using the "circular training" method.

Tasks of the research: In order to achieve the goal of our research, we have defined the following tasks.

- to study the materials of existing scientific-methodical literature and scientific articles on the topic.

- study and analysis of loads used in sports training.

- assessment and analysis of girls' physical qualities based on tests.

Pedagogical experience was conducted during the 2023-2024 academic year. In it, the indicators of physical quality and preparation of female students of handball specialty of UzSPTSU were controlled.

A total of 24 female athletes, selected from female students with similar levels of preparation, were divided into two groups of 12 each, control and experimental groups. We monitored the changes in their physical quality indicators over the course of one year.

In training, the effect on various muscle groups of the sports girls' body and the improvement of technical skills and physical qualities were regularly monitored by introducing a program of "circular training" and giving a set of exercises on physical qualities. In addition, SPMO training (improvement of sports pedagogical skills) planned in handball specialty groups was studied and analyzed, and training loads used in the development of physical qualities of female students were studied [2,7,9].

During the pedagogical experience, the opinions of qualified professors and teachers on the physical fitness of female students, including their physical quality, were studied.

The following test requirements were used to assess the physical quality of students:

Test 1. Running with a ball for a distance of 30 m (timed).

Test 2 Triple jump. (meter)

From the designated line, the first jump is performed by jumping on two legs and landing on one leg, then jumping on one leg, the second jump is performed, and jumping on the same leg, the third jump is performed and landing on two legs.

Test 3 Throwing a ball weighing 700 grams. (meter)

Test 4. 88-90 m. distance running time (seconds)

From the center of the court, the player sprints to the 6-meter line, then back to the 9-meter line, then back to the center line of the 20-meter court, then back to the 9- and 6-meter lines. In order to calculate the completion of the exercise, the athlete must return with his feet touching these lines.

Test 5. Cooper test (meter)

It is necessary to run around the stadium for 6 minutes. At this time, the distance covered is taken into account.

At the beginning of our study, when we analyze the results of both groups based on the table, we can see that the results of the control group are higher than the results of the experimental group. Accordingly, we included "circular training" exercises in the SPMO training program of the experimental group students.

Circuit training exercises and stations

Every 2 minutes students move from one station to another

Station 1 Shuttle running: 2 poles are installed at a distance of 5 meters. Two practitioners stand next to one column and one practitioner stands next to the other. After the signal, one of the two trainees quickly runs to the second column and takes the place of the student there. The exercise continues in this way.

2nd station Hitting the ball on the ground and running: two posts are installed at a distance of 10 meters. Two players stand next to one column and one player stands next to the other (one ball in each hand). After the signal, one of the two players runs quickly towards the second post and takes the place of the player there, and if the player is there, he starts the exercise of hitting the ball and running. The exercise continues in this way.

Station 3 Jumps: three athletes stand in front of the bench. After the teacher's signal, all three trainees perform the exercise of jumping on the bench.

Station 4 Ball passes: 2 posts are installed at a distance of 5 meters. Two practitioners stand next to one column and one practitioner stands next to the other. One ball in one of the two players. He passes the ball to his partner on the opposite side and takes a place with the player behind him. The player standing on the opposite side passes the ball again by running on the spot. The exercise continues in this way.

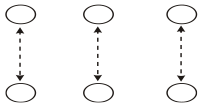
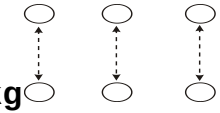
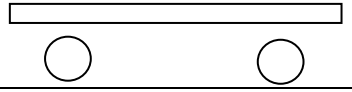
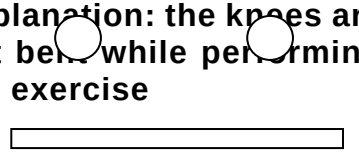
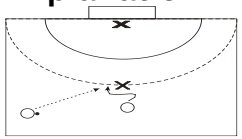
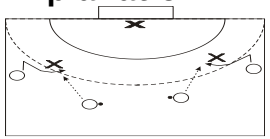
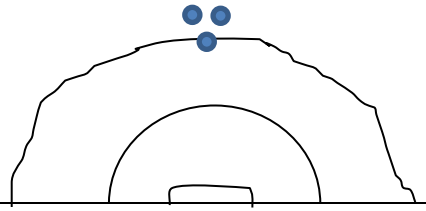
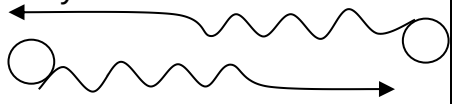
5th station defensive movement: three students are placed in a defensive zone. After the signal, they move forward, backward, right, left in a protective manner.

Station 6 Press: three students lie face up on the bench. After the signal, they should raise their legs and touch their toes to the bench behind their heads.

7th station, development of joint movements of handball players (crest, tactics), the corner player passes the ball to his partner in the "skrest" scissor method, distracting the defender through "feints". Unisi puts the ball into the goal.

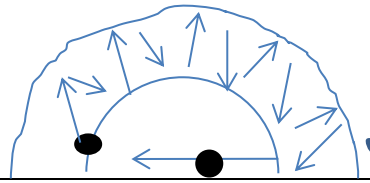
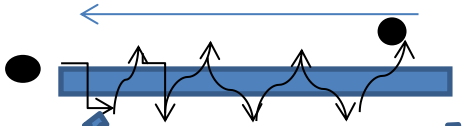
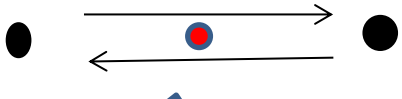
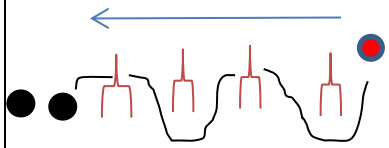
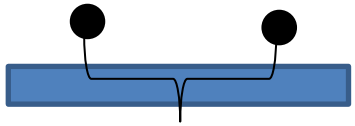
8th station technical-tactical actions (feints, tactics) the defender stands in the 9-meter zone. The attacker passes the ball to him, and after receiving it, he tricks the defender and shoots into the goal.

It is called a "series" that is performed once at each station, and each of these series is performed 3-4 times during training.

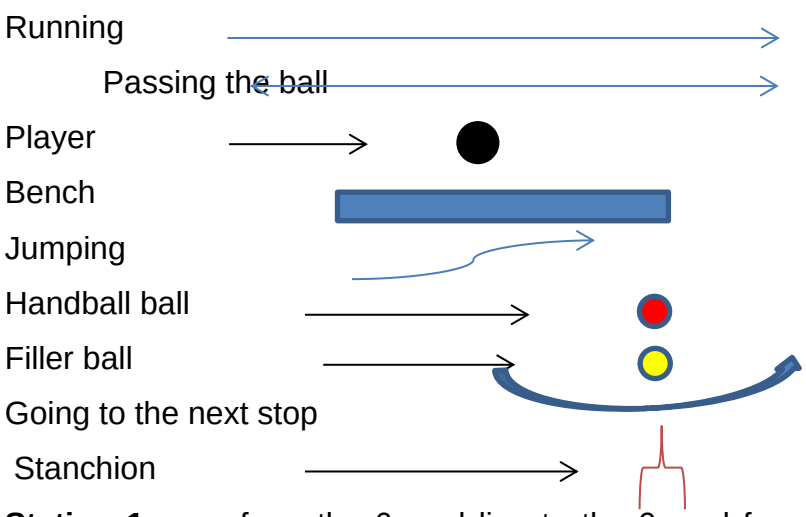
1st stop -developing the technique of passing the ball (speed) while passing the handball ball to a partner at a distance of 3-4 meters, the feet are moved quickly in place.	**2nd stop** - development of hand strength (strength) while passing the ball to each other at speed from a distance of 3-4 meters with a partner, the legs are moved quickly on the spot.	**3rd stop** - development of generosity (quick-power) jumping from the ground on two feet to the bench and landing in this way.	**4th stop** - press (flexibility development) lying on the bench with the back, raising and lowering the legs more than 90 degrees.
Explanation: The distance is 3-4 meters 	**Explanation: Filler ball weight 1-1.5 kg** 	**Explanation: the height of the bench is 50 sм** 	**Explanation: the knees are not bent while performing the exercise** 
8th stop - technical and tactical actions (feint, tactics) the defender stands in the 9-meter zone. The attacker passes the ball to the leader and, after receiving it back, deceives the defender through "feints" and shoots into the goal.	**7th stop** - development of mutual actions of handball players (crest, tactics), the corner player distracts the defender through "feints" and passes the ball to his partner in the "skrest" scissor method. Unisi puts the ball into the goal.	**6th stop** - to develop the technique of shooting the ball into the corners of the goal (accuracy) Free throw 12 accurate and correct balls from the "9 m" area to the corners of the goal. 3 in each corner.	**5th stop** - run with the ball on the ground (quick endurance) the two participants look at each other. After the signal, one player runs the ball to the ground and passes the ball to his partner on the marked line.
Explanation: 	**Explanation:** 		**Explanation:** 10 meters away 

1-picture

2-picture

		
Station 1 goes from the 6-yard line to the 9-yard free throw line 5 times.	**2nd station** they jump over the bench to the right and left .	**3rd station** interval distance 4 meters to increase the speed of the ball to each other.
 **(vision)**	 **(700 gramm)**	 **(Press)**
The 6th stop is to carry the ball between the posts.	**5th station,** the intermediate distance is 3 meters, they raise the ball to each other	**At the 4th station,** two of them lie opposite each other on the bench, alternate their legs and do a press.

Explanation:



Station 1 goes from the 6-yard line to the 9-yard free throw line 5 times. They go forward, with the front, and when they go back, they return with the back.

2nd station jump over the bench to the right and left 8 times.

3rd station interval distance 4 meters to increase the speed of the ball to each other.

At the 4th station, two of them lie opposite each other on the bench and press each other's legs.

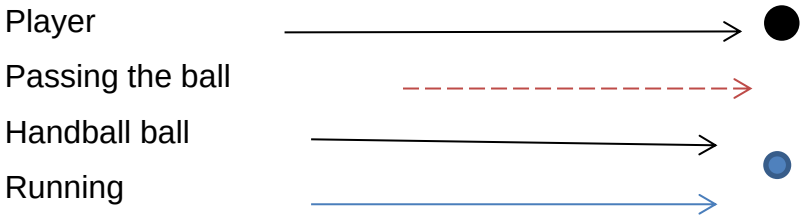
5th station, the intermediate distance is 3 meters, they raise the ball to each other.

The 6th stop is to carry the ball between the posts**.**

During one session, it would be appropriate if these stations are returned 4-5 series.

The exercise time at each station is 1.5 minutes, with a 30-second rest interval.

Explanation:



Initially, 4 players are placed on both surface lines of the goals, and the other 4 are placed on the middle line of the field. A filler ball weighing 1 kg is given to 4 participants standing in the center of the field, and they run at maximum speed towards the participants standing on the goalkeeper's surface line, passing the ball to each other at maximum speed. must be done.

The exercise time is 2 minutes, the rest interval is 30 seconds, and this exercise is repeated 4 times.

The same exercise is performed by the players who are waiting for the ball.

The same exercise in which the players waiting for the ball write with their arms folded while resting on the ground until the ball arrives.

RESULTS AND DISCUSSIONS

Table 2 presents the statistical characteristics of the results recorded at the beginning (test) and at the end (retest) of the pedagogical experiment on the assessment of the physical qualities of the students of the control group, as well as the dynamics of their change during the experiment.

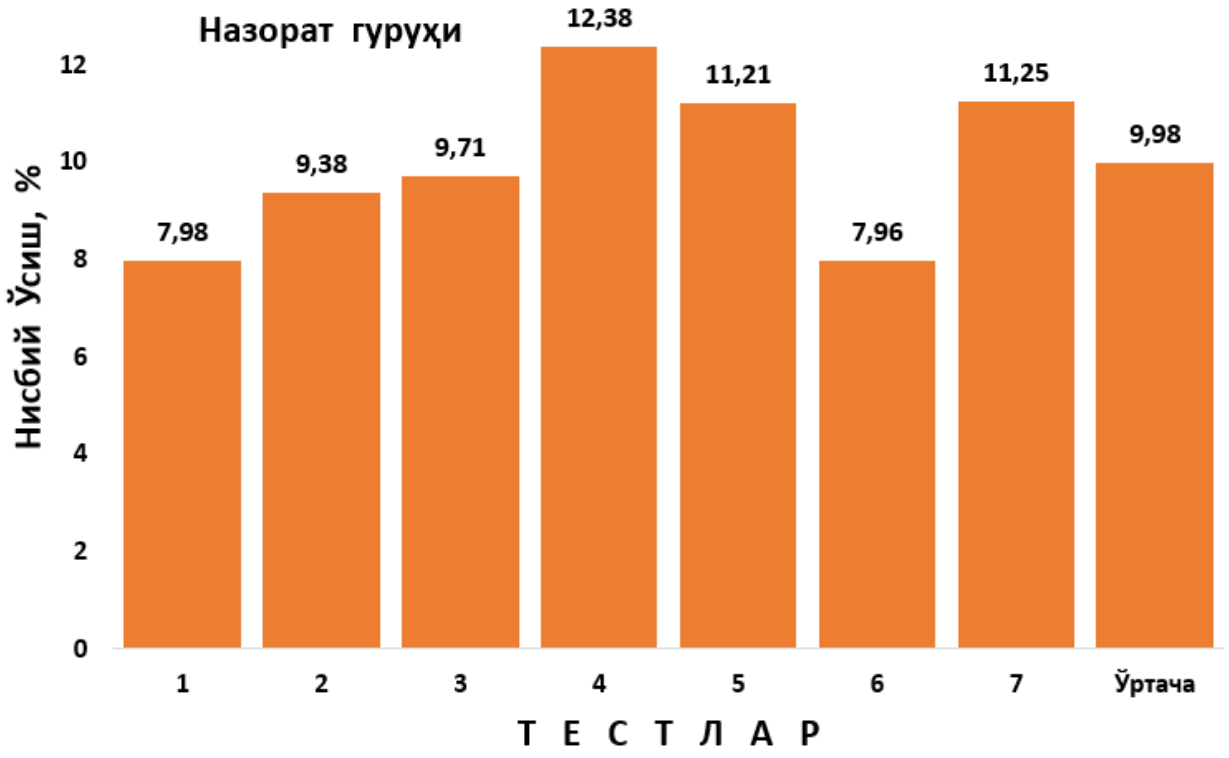
The dynamics of changes in the results of physical quality assessment of control group students during pedagogical experience

Table 2

Test	At the beginning of the experiment			At the end of the experiment			Growth		t	P
	$\overline{X}$	σ	V, %	$\overline{X}$	σ	V, %	AG	RG		
1-тест	6,68	0,77	11,57	6,15	0,69	11,22	0,53	7,98	1,78	>0,05
2-тест	346,67	36,71	10,59	379,17	38,44	10,14	32,50	9,38	2,12	<0,05
3-тест	12,88	1,62	12,58	14,13	1,71	12,11	1,25	9,71	1,84	>0,05
4-тест	8,42	1,14	13,59	9,46	1,25	13,22	1,04	12,38	2,13	<0,05
5-тест	9,67	1,22	12,62	10,75	1,31	12,19	1,08	11,21	2,10	<0,05
6-тест	30,16	3,51	11,64	27,76	3,09	11,13	2,40	7,96	1,78	>0,05
7-тест	1051,67	132,26	12,58	1170,00	141,84	12,12	118,33	11,25	2,11	<0,05
Average								9,98		

Note: AG- Absolute growth, RG- Relative growth (in percent).

Summarizing and analyzing the data presented in this table, the results of the tests characterizing the indicators of physical fitness studied by the student athletes of the control group involved in the pedagogical experiment, recorded at the beginning and at the end of the experiment (test and retest), show that there were positive changes in all 7 indicators studied during the pedagogical experiment. is standing. In particular, at the beginning of the pedagogical experiment on the studied test 1, the arithmetic mean and standard deviation values of the results of the student athletes of the control group were ± s = 6.68 ± 0.77 s. was equal to, at the end of the experiment, these indicators ± s = 6.15 ±0.69 s. was found to be equal to At the same time, it was found that the absolute increase of the average arithmetic values of the experimental results of this group of test indicators was 0.53 s. and their relative increase was 7.98% (diagram 2).



1-diagram.

At the same time, among the 7 physical quality tests of the control group tested during the pedagogical experiment, the smallest positive relative increase was observed in test 1 (7.98%), and the largest relative increase was observed in test 4 (12.38%), 7 It was found that the overall average positive relative increase in the test was 9.98%.

In the control group of the 7 physical fitness tests studied during the experiment, four of the statistical reliability indicators of the average arithmetic values of the absolute growth of the results recorded during the pedagogical experiment are satisfactory (R<0.05 and are in the range of t = 2.10 and t = 2.13 values) at the level of significance. reliable and the other three are satisfactory (R>0.05 and t = 1.78 and t = 1.84 are in the range of values) it was observed that it changed from unreliable to positive.

Table 3 presents the results recorded by the student athletes of each experimental group of tests characterizing physical fitness indicators at the end of the pedagogical experience and their main statistical characteristics.

3-*table*

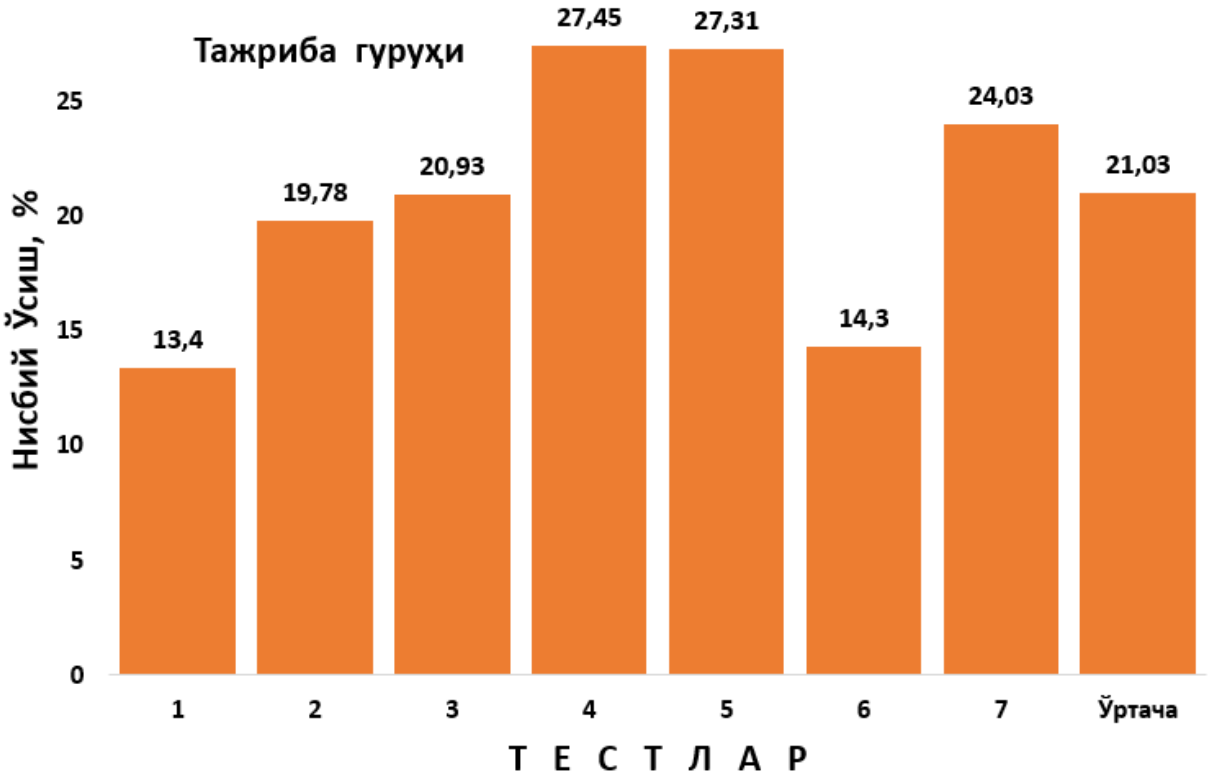
The dynamics of changes in the results of the assessment of the physical qualities of the students of the experimental group during the pedagogical experience

тест	**At the beginning of the experiment**			**At the end of the experiment**			**Growth**		**t**	**P**
	$\overline{X}$	σ	V, %	$\overline{X}$	σ	V, %	AG	RG		
1-тест	6,84	0,82	11,99	5,93	0,66	11,14	0,92	13,40	3,02	<0,01

2-тест	341,25	37,42	10,97	408,75	41,37	10,12	67,50	19,78	4,19	<0,001
3-тест	12,54	1,62	12,92	15,17	1,84	12,13	2,63	20,93	3,71	<0,01
4-тест	8,50	1,19	13,98	10,83	1,42	13,11	2,33	27,45	4,37	<0,001
5-тест	9,46	1,22	12,90	12,04	1,46	12,12	2,58	27,31	4,70	<0,001
6-тест	31,12	3,73	11,99	26,67	2,98	11,18	4,45	14,30	3,23	<0,01
7-тест	1033,33	133,84	12,95	1281,67	155,62	12,14	248,3	24,03	4,19	<0,001
Ўртача								21,03		

Note: AG- Absolute growth, RG- Relative growth (in percent).

Summarizing and analyzing the data presented in this table, the results of the tests characterizing the physical fitness indicators studied by the student athletes of the experimental group involved in the pedagogical experiment were recorded at the beginning and at the end of the experiment (test and retest) in all 7 indicators studied during the pedagogical experiment, the same as the indicators in the control group. , indicating that positive changes have occurred. In particular, the arithmetic mean and standard deviation values of the results of the student athletes of the experimental group at the beginning of the pedagogical experiment on the studied test 1 ± s = 6.84 ± 0.82 s. was equal to, at the end of the experiment, these indicators ± s = 5.93 ±0.66 s. was found to be equal to At the same time, the experimental results of the athletes of this group according to these test indicators showed an absolute increase in the average arithmetic values of 0.92 s. It was found to be .40% (5.42% more than the corresponding 7.98% in the control group) (Chart 3).



3-diagram.

At the same time, among the 7 physical quality tests of the control group tested during the pedagogical experiment, the smallest positive relative increase was observed in test 1 (13.40%), and the largest relative increase was observed in test 4 (27.45%), 7 It was found that the overall mean positive relative increase for the test was 21.03 percent (11.05 percent or 2.107-fold positive change from the corresponding 9.98 percent in the control group).

Statistical reliability indicators of absolute growth of arithmetic average values of 7 physical fitness tests studied during the experiment are satisfactory (R<0.05 and between t = 2.10 and t = 2.13 values) at the level of significance. reliable and the other three are satisfactory (R>0.05 and t = 1.78 with t = 1.84) at the level of significance compared to unreliable positive changes in the experimental group four are higher (R<0.001 and t = 4.19 with t = 4.70) was found to be reliable at the level of significance and the other three were found to be good (with R<0.01 and t = 3.02 to t = 3.71) to have a reliable positive change at the level of significance.

Diagram 4. Comparative comparison (in percentages) of the average arithmetic values of the average arithmetical values of the students of the control and experimental groups.

Summarizing and analyzing the data presented in this diagram, in each of the results of the tests characterizing the studied physical qualities, compared to the relative increases of the average arithmetic values of the results in the control group during the pedagogical experience, the corresponding indicators in the experimental group are in the range of 1.679 times to 2.437 times more, and in the average relative increases in the control and experimental groups, the experience shows that an increase of more than 2,107 times was

detected in the group, and this is proof of the effectiveness of the circuit training method used in the training of the experimental group compared to the traditional tools and methods used in the training of the control group.

CONCLUSION

In order to develop the physical qualities of students, to be able to quickly and correctly solve movement tasks, they should have the qualities of strength, quickness, endurance, agility, flexibility, as well as willpower.

Studying the literature and scientific articles and analyzing the training process, it is possible to come to the following conclusion, it was observed that the use of the "circular training" program during the training sessions is gradually decreasing. When preparing the physical qualities of students, it is necessary to educate them with the methods, tools and methods that meet the current requirements. Until now, there have been no research studies aimed at increasing physical qualities in training sessions, through "circular training" exercises.

In conclusion, we can say that the results of the control group went down instead of up. We can see that the results of the female students in the experimental group are much better than before. We think that the reason for this is the inclusion of the "circular training" program in the training sessions and the wise use of it.

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