Legalizing speed Endurance Training According to Some Physiological Indicators for 800-Meter Runners for Youth

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Abstract

The importance of research lies in the preparation and codification of speed endurance exercises according to some physiological indicators for 800-meter runners for youth and to identify the effect of codifying speed endurance training according to some physiological indicators of 800 meters for youth, as the researcher adopted the experimental approach in designing the two equivalent groups (control and experimental) to suit the nature of the research, where the research sample was determined by deliberate selection of young runners in athletics at the age of (18-19 years) according to the classification of the international athletics federation, as the research sample included (10) runners representing Baghdad clubs who were distributed randomly (by lot) into two groups control and experimental group each consisting of (5) runners, physiological tests were performed, including the maximum consumption of oxygen and lactic acid, and the physical tests included (1000) meter endurance test and (800) meter achievement test on the research sample, and the researcher came to the following conclusions that the speed endurance training gave progress in the level of the (800) meter running in this test, and they need to be stable and avoid fluctuation in the variation in the values of this test, the results showed that the experimental group members outperformed the control in the physiological indicators (lactic acid concentration, the maximum oxygen consumption (VO_2max) in the post-tests. The researcher recommended the necessity of conducting physiological tests to legalize training loads because of their effective role in the training process, focusing on developing and rationing the speed bearing capacity because of its direct impact on the development of achievement in the activities of middle-distance athletics.

Keywords: *Legalizing speed, training, physiological indicators*

Introduction

The development of the level of sports performance in order to achieve high levels of achievement in different sports depends on the diversity in the use of training methods that have a great impact in improving [1] the sports figures and their different effects stimulate those interested in the field of sports training to the continuous diversity in the use of the most effective training methods, and a contribution to developing achievement. Therefore, the 800m game is one of the fast medium runs that is performed with sub-extreme intensity and due to this feature there is a specificity when training [2] it in terms of the energy system prevailing in it and the method and training method that affects the physical abilities used and the physiological variables that characterize this game, and as a result of this peculiarity, the chosen physical capabilities and physiological indicators should be in this direction, because this event is viewed as a fast running race, and this gives an idea of the general trend in thinking about developing achievement in this competition it should focus on special physical abilities and some physiological variables affecting this competition and the common characteristics between it and the fast running and developing the [3-5] time of this activity that needs compatibility and harmony, and because the runner possesses the capabilities that are in harmony with the requirements imposed by the performance stages of this event from the special physical abilities that have a positive effect in maintaining the speed throughout the race distance and the intensity required by the activity

by taking advantage of improving neuromuscular work and adapting body systems in order to reach high achievement, hence the importance of research in codifying speed endurance training exercises according to some physiological indicators for 800-meter runners.

Research problem:

Run 800 Olympic competitions that require the athlete who specializes in this event to have special physical and physiological abilities in addition to patience, challenge, and willpower all combined in order to achieve achievement, the researcher noticed, through looking at the results and participation of the Iraqi runners, the achievement of the (800)m run, that the level of achievement in this event does not develop among Iraqi players compared to the international record that was recorded in the Brazilian Rio Janeiro olympics, as the scientific research and experiments that have been reached in this activity, which is not bearing large energy waste, the researcher was called upon to address this problem by codifying speed endurance exercises for the effectiveness of (800)m jogging according to physiological indicators, including the accumulation of lactic acid and the maximum oxygen consumption.

Research objectives:

1. Preparing and codifying speed endurance training according to some physiological indicators for 800-meter runners for youth.

2. Identify the effect of codifying speed endurance training exercises according to some physiological indicators of (800)m for youth

Research hypothec :

There are statistically significant differences between the pretest and the post test in (physical and physiological tests for 800-meter young runners and in favor of the post-test.

Research fields:

The human field: Baghdad youth runners clubs.

Time domain: From 9/4/2020 to 3/11/2020.

Spatial field: College of Physical Education and Sports Sciences Stadium for Athletics / University of Baghdad.

Methodology

The researcher chose the experimental approach in designing the two equivalent groups (control and experimental) for its suitability with the nature of the research.

Community and sample research:

The research sample was determined by intentional selection of young runners in athletics at the age of (18-19 years) according to the classification of the International Athletics Federation, as the research sample included (10) runners representing Baghdad clubs, who were distributed randomly (by lot) into two control groups. Each experimental group consisted of (5) runners, as the control group implemented the training curriculum followed by the trainer, either the experimental group adopted the same approach except for the speed-endurance exercises prepared by the researcher and it is implemented.

Devices, tools and methods used in the research:

Methods of data collection:

- Arab and foreign sources.
- The International Information Network The Internet.
- Personal interviews for experts.
- Exploratory experience.
- Tests and measurements.
- Results registration form.
- Data dump form.
- Auxiliary work team
- Statistical methods.

Tools and devices used:

To obtain data and reveal facts, the researcher will use the following tools:

- Lactic acid device measurement in the blood (Lactate Pro) number 2.

- Maximum oxygen consumption measuring device (VO2Max).

Field research procedures:

Determine the physical and physiological tests used in the research:

Test ran 1,000 meters:

Objective: To measure the speed endurance for running a distance of (800) meters.

Tools used: track and field stadium , (12) stopwatches, and registration forms.

Scientific conditions: (Shaker Muhammad Al-Sheikhly) prepared by the British Olympic coaches (Watts and Wilson) as a speed endurance test for running 800 meters [1], experts and trainers agreed that it is suitable for measuring the endurance of speed for running a distance of (800) meters.

Performance description : All five players were selected together to ensure the element of competition, as each player stood in his field, then the test began by giving players a directive to go behind the starting line to take the starting position from standing, upon hearing the start signal, the players set out to run and cover two and a half laps (1000 meters), and upon reaching the finish line the timing clocks were stopped, and the time spent by each player was read, and recorded in the scoring form.

Achievement test ran 800 meters:

The purpose of the test: to measure the effectiveness of 800 meters.

Tools used: track and field stadium, stopwatches that can measure more than one time during the test, assistants, registration form.

Performance description: The test was conducted in accordance with the conditions and regulations of the International Federation of Athletics, as were all tested together for the purpose of runners compete, and every runner in the field of dedicated running, after that, the test begins by instructing runners to go behind the starting line to take the starting position from standing, when the start signal is heard, the runners start running two laps on the track for a distance of 800 meters.

Register: The registrar records the completion time in the form prepared for this purpose in the minute and the second to the nearest fraction of a second.

Blood lactic acid concentration test before and after physical effort [2]:

Test name: Measurement of lactic acid concentration in the blood before and after physical effort.

Objective: Find out the percentage of lactic acid concentration in the blood.

Tools used: A lactate pro2 LT-1710 device, needle drill, test strip, graduated tape, medical cotton, sterile materials and registration form.

How to use it: Blood samples will be taken every two weeks during the special endurance period before and after the effort.

Register: The reading shown by the device for each player is recorded in the registration form.

Maximum oxygen consumption (VO_2max) test [3]:

Test objective: Measurement of maximum oxygen consumption (VO_2max).

Device and tool: Maximum oxygen consumption measuring device (VO2max).

Procedures and performance specifications: Before starting the test, the test performer cleans the VO_2max respirator with an antiseptic solution, ties the Fitmate Pro system parts together, attaches the pulse belt to the tester's chest, and attaches the Bluetooth pulse receiver to the Fitmate pro, after entering the player information into the device, which includes name, date of birth, gender, height, weight, and choosing the type of test to be performed (VO2mx), and then fixing the respirator tightly with its belts and making sure that breathing air does not leak from the mask, then the tester climbs onto the treadmills and runs gradually with increasing speed, as the tester begins to control the increase in running speed on the device with the speed gradient from the special button for that in the treadmills starting from (4.5) to (13-) 14) km / hour, the Fitmate Pro device contains a small screen with a graph box showing the pulse and maximum oxygen consumption (VO_2max)

with the ratios for each of them, which is monitored by the rectifier.

Register: the device gives a comprehensive reading tape for measurements of maximum oxygen consumption (VO2max), the image of which is shown.

Measuring unit : Milliliter / kg / minute.

Exploratory experience:

The exploratory experiment was conducted at nine o'clock in the morning on 1/9/2020 by three players from the research sample, in order for the players to get used to the testing procedures to understand them and not to be afraid of the procedures.

Pre-tests:

After completing the exploratory experiment and avoiding the difficulties and obstacles that appeared in it, the researcher conducted the pre-tests for the functional variables of the individuals of the research sample consisting of distance runners (800 meters).

The main experience:

The researcher prepared a training curriculum with endurance of speed for the effectiveness of (800 meters) based on his experience and field training experience and drawing on the opinions of specialists in the field of sports training science and scientific and Arab training and physiological sources. (Muhammad Reda Al-Madaghmi) confirms that most of the changes resulting from training occur during the first period of the curriculum Training within (8-12 weeks) [(4)]. The duration of the implementation of the training curriculum lasted (8) weeks, at the rate of (2) two training units per week, and the number of training units reached (16) units that were applied in the period from 4/9/2020 to 3/11/2020.

Post-test:

The assistant work team, under the supervision of the researcher, conducted the post tests of the individuals, the research sample, and under the same circumstances, to give equal opportunity to the individuals of the research sample in recording the results.

The statistical means used:

- SPSS.
- (V20) (Virgin).
- Mean.
- Standard deviation.
- Coefficient of torsion.
- T-test for correlated samples.
- T-test for non-correlated samples.

Presentation, analysis and discussion of results:

Table (1) Shows the results of the arithmetic mean and the standard deviations of the two research groups (experimental and control) in the pre and post- tests in the speed endurance test (1000 m) and the achievement test (800 m).

Physical abilities		Group	Pre-test		Post-test	
Test	Measuring unit		Mean	Std. deviation	Mean	Std. deviation
Speed endurance (1000) meters ran.	Min /second	Experimental	160.625	2.96491	153.26	1.15877
		Control	163.755	3.51759	160.989	3.04025
Test of (800) meters run.	second	Experimental	125.034	1.749	118.153	2.686
		Control	126.249	1.214	123.383	2.359

N = 5 for each group

Table (1) shows that the arithmetic mean of the experimental group in the speed endurance test of running speed (1000) meters preceding was (160.625) and the standard deviation (2.96491), in the post test, the mean became (153.26) and the standard deviation (1.15877), while the mean of the control experimental group was (163.755) and the standard deviation (3.51759), and in the post test the mean became (160.989) and the standard deviation (3.04025). As for the achievement test, it shows that the mean of the experimental group in the pre-test was (125.034) and the standard deviation (1.749). In the post- test, the mean became (118.153) and the standard deviation (2.686), while the mean of the control group in the pretest was (126.249) and the standard deviation (1.214), and in the post test the mean became (123.383) and the standard deviation (2.359).

In order to identify the difference between the pre and post- tests in the results of the speed endurance test, the achievement test, the researcher used a (T-test) test for correlated samples for each of the two research groups, as shown in table (2):

Table (2) shows the mean of the differences, the deviations of the differences, the value of the test (T) and the significant significance of the two research groups (experimental and control) in the pre and post- tests in the speed endurance test (1000 m) and the achievement test (800 m).

Test	Group	Means difference	Std. difference	(T) Calculated	Sig level	Sig Type
Speed endurance (1000) meters ran.	Experimental	7.354	2.19259	7.508	0.004	Sig
	Control	2.776	0.8685	7.139	0.004	Sig
Test of (800) meters run.	Experimental	6.880	3.923	3.922	0.015	Sig
	Control	2.868	1.975	3.249	0.035	Sig

Degree of freedom (n-1) = 4 and the level of significance (0.05).

Table (2) shows that in a test with a running speed of (1000) meters, the mean difference in the mean between the pre and post- tests of the experimental group was (7.354) and the deviation of the differences was (2.19259) and the calculated value of the test (T-test) for the correlated samples was (7.508) at the level of Significance (0.05) and degree of freedom (4), and the value of (Sig) was (0.004), which is less than (0.05), which means the significance of the differences between the pre and post- tests in favor of the post- test, as for the mean difference of the mean between the pre and post-tests of the control group (2.776) and the deviation of the differences (0.8685), the calculated value of the (T-test) for correlated samples was (7.139) at a significance level (0.05) and a degree of freedom (4), and the value of (Sig) (0.004) which is less than (0.05), which means the significance of the differences between the pre and post-tests, and in favor of the post test. As for the achievement test, it shows that the mean difference in the mean between the pre and post-tests of the experimental group reached (6.880) and the deviation of the differences reached (3.923) and the calculated value of the (T-test) reached (3.922) and the degree of freedom (4), and the value of (Sig) (0.015) is less than (0.05), which means the significance of the differences between the pre and post tests and in favor of the post test, as for the mean difference in the mean between the pre and post- tests of the control group, it reached (2.868) and the deviation of the differences (1.975). The calculated value of the (T-test) was (3.249) at a significance level (0.05) and a

degree of freedom (4), and the value of (Sig) (0.035) and it is less than (0.05), which means the significance of the differences between the pre and post tests and in favor of the post test.

Table (3) shows the mean, standard deviations, the value of (T) test and the level of significance between the post- tests between the experimental and control groups in the speed endurance test (1000 m) and the achievement test (800 m).

Physical abilities		Group	Mean	Std. deviation	(T) Calculated	Sig level	Sig Type
Test	Measuring unit						
Speed endurance (1000) meters ran.	Min /second	Experimental	153.26	1.15888	5.310	0.001	Sig
		Control	160.986	3.04029			
Test of (800) meters run.	second	Experimental	118.155	2.686	3.274	0.014	Sig
		Control	123.384	2.359			

Degree of freedom (n -2) 5 + 5-2 = 8 and the level of significance (0.05)

Table (3) shows that the mean of the experimental group in the endurance test of running velocity was (1000) meters (153.26) and the standard deviation (1.15888). As for the control group, its mean was (160.986) and the standard deviation (3.04029). The calculated T-test value was (5.310) at the significance level (0.05) and the degree of freedom (8). (Sig) (0.001) which is smaller than (0.05). This means that there is a statistically significant difference with regard to the two research groups and in favor of the experimental group. As for the achievement test, it shows that the mean of the experimental group in the post test was (118.155) and the standard deviation (2.686), while the control group had its mean (123.384) and the standard deviation (2.359), after calculating the value of (T) calculated using the law of (T) -test) for non-correlated samples that were (3.274) at a level of significance (0.05) and a degree of freedom (8), the value of (Sig) (0.014) is less than (0.05), which means that there is a statistically significant difference, while the two research groups in the achievement test ran (800) meters in favor of the experimental group.

Discuss the Results

Discussing the results of the difference between the pre and post tests for the two research groups and the (t) values for the post tests between the experimental and control groups in the speed endurance test (1000 m) and the achievement test (800 m).

From reviewing the two tables of statistical significance (2 and 3) for testing physical abilities, he ran (1000) meters between the pre and post-tests, the two research groups and the post-tests between them showed improvement in each of them in the tests and the superiority of the experimental group over the control group, and the researcher attributes this result to the proposed exercises that were done they applied them to an experimental group of young runners, which led to the occurrence of adaptations that had an effective impact on the development and development of speed endurance, and this is certainly due to the privacy of the proposed approach to developing special endurance, which is an important principle of sports training principles that must be taken into account, especially for running coaches (800

meters), Mufti Ibrahim Hammad believes that "one of the conditions for enduring special speed training as one of the physical abilities of anaerobic prolongation requires the use of exercises characterized by high intensity using the method of high-intensity interval training for specific periods of time interspersed with positive (incomplete) rest between repetitions, provided that these are The exercises are characterized by a gradual increase in velocity at a time when the distance also decreases gradually, which will improve the ability of velocity stretching. " [5] , Shakir Al-Dara'a states, "The results are better the more the intensity is close to the maximum intensity" [6]. The researcher attributes this development in the dimensional tests and for the benefit of the experimental group in a test running (1000 meters) more than the racing distance to the effectiveness of special endurance exercises that contributed to the development of this test time, as the distance of this test is greater than the completion distance (800 meters), the test distance (1000 meters) needs both aerobic and anaerobic energy sources, therefore, the special endurance exercises used by the researcher tended towards the development of anaerobic capabilities and as a result of the repetitions and intensity specified for each distance, which led to the body carrying physical burdens as a result of its fatigue in order to create special adaptations for the functional organs that were reflected in the development of the performance level of this group in performing the maximum possible degree from the intensity of jogging and for the longest possible period of time, (Ibrahim Al-Basri) confirms, "Experiences have proven that endurance and stress in the body during exercise, especially special endurance exercises, lead to gradual normalization of the body on effort and thus affect the ability of the heart and circulation system [7], and the researcher believes that the exercises that have been implemented have contributed to creating functional changes and upgrading the level of group members, which enabled them to travel the test distance in the least possible time. Although the control group had obtained a percentage of development at the time of this test, the difference was in favor of the experimental group in the significance of the differences, as the regularity of the experimental group sample in performing the exercises and the commitment to the specified rest times without interruption and the seriousness that they enjoyed in performing the exercises of different distances, intensity and time contributed to raising the efficiency of the functional devices, modifies the vital functions of body systems and this effect appears in their responses to loads of different intensity [8].

As for the achievement of running (800 meters), the researcher attributes that this development that appeared on the members of the experimental group is due to the effectiveness of the proposed training approach adopted by the researcher, where he focused mainly on developing special endurance (endurance of speed) by the method of low and high interval training. The intensity is from the real competition time, which reflects the mutual relationship between endurance and speed in the term endurance speed as complex abilities that contribute to determining achievement during the race, (Raisan Khuraibet 1998) asserts that "structured and programmed training and the use of types of standardized stresses in training and the use of optimal rest types between repetitions lead to an improvement in the level of achievement [9], and this is what distinguished the experimental group from the control, which led to the development of the level of performance the experimental group, which was reflected in the performance of the maximum possible degree of racing speed and for the longest possible period of time, as the use of balanced and comprehensive training leads to avoiding a drop in running speed because special training works to improve endurance [10] , it must be noted that the proposed training curriculum that the experimental group underwent contributed to the development of achievement more than the control group, as it was characterized by endurance exercises for medium and short distances that are directed towards developing oxygen and non-oxygen energy, distances that range between 2 minutes and more are used to improve oxygen endurance, while short distances that range from 15 to 120 seconds are used to develop non-oxygenic endurance. "This is one of the special endurance requirements that an 800-meter running event needs, as it needs both sources of oxygen energy and non-oxygenic, therefore, enduring speed is one of the abilities that may decide the race in the 800-meter event [11], on (Miles, T1992) "and this shows the effectiveness of the exercises included in the curriculum, as it came in line with what happened in terms of achievement, considering that the special endurance is the main factor in the repetition of similar movements such as running

movements according to the endurance of speed and which were included in this achievement test, which was reflected in the results of this group in the post-test as well as the development of the traits included in the program the contestant for this event needs it [12], (Atheer Sabri 1983), citing Yonath, Hack and Carmel, confirms, "The physical qualities of a middle-distance runner are endurance, speed and strength, and these qualities are important and are required to be developed to raise the level of achievement, (Less and more than the racing distance) continuously will inevitably increase the rate of speed over the course of the race and that the development of the speed endurance capacity of the members of the experimental group had the cut-off point in determining the completion time between the two groups as a result of the correlation of the completion time in the 800-meter running event and the variables related to this activity with the development special speed endurance capacity [13].

Table (4) Shows the results of the arithmetic means and the standard deviations of the two research groups in the pre and post- tests in the functional indicators tests.

Physical abilities		Group	Pre-test		Post-test	
Test	Measuring unit		Mean	Std. deviation	Mean	Std. deviation
Lactic acid	Millmole / liter	Experimental	.3612	0.4099	14.840	0.7021
		Control	12.66	0.3647	13.420	0.249
VO2max	Milliliter / kg / Minute	Experimental	63.28	2.9132	68.72	2.1324
		Control	61.02	2.4108	62.18	2.5694

N = 5 for each group.

Table (4) shows in the test of measuring the pulse difference before and after the effort, the mean of the experimental group was lost in the test for measuring lactic acid, so the mean of the experimental group in the pretest was (12.36) and the standard deviation (0.4099), and in the post test the mean became (14.840)) and standard deviation (0.7021), as for the mean of the control experimental group, it was (12.66) and the standard deviation (0.3647), and in the post test the mean became (13.420) and the standard deviation (0.249), as for the test to measure the maximum oxygen consumption (VO_2max), the mean of the experimental group in the pre-test was (63.28) and the standard deviation (2.9132), and in the post test, the mean was (68.72) and the standard deviation (2.1324), while the mean of the control experimental group was (61.02) and the standard deviation (2.4108), in the post-test, the mean (62.18) and the standard deviation (2.5694) became in order to identify the difference between the pre and post-tests in the results of the physiological indicators tests, the researcher used a T-test for the correlated samples for each of the two research groups.

Table (5) shows the mean of the differences, the deviations of the differences, the value of the (T) test, and the significant significance between the pre and post- tests of the two research groups in the functional indicators tests

Test	Group	Means difference	Std. difference	(T) Calculated	Sig level	Sig Type
Lactic acid	Experimental	2.48	0.9149	6.061	0.004	Sig
	Control	0.76	0.4037	4.209	0.014	Sig
VO2max	Experimental	5.44	1.7053	7.133	0.002	Sig
	Control	1.16	0.6768	3.833	0.019	Sig

Degree of freedom (n-1) = 4 and the level of significance (0.05).

Table (5) shows that in the lactic acid measurement test, the mean difference in the mean between the pre and post-tests of the experimental group was (2.48) and the deviation of the differences was (0.9149), and the calculated value of the (T-test) test for correlated samples was (6.061) at a level of significance (0.05), degree of freedom (4), the value of (Sig) was (0.004), which is less than (0.05), which means the significance of the differences between the pre and post-tests in favor of the post test, as for the mean difference of the mean between the pre and post- tests of the control group (0.76) and the deviation of the differences (0.4037), the calculated value of the (T-test) for correlated samples was (4.209) at a level of significance (0.05) and a degree of freedom (4), and the value of (Sig) was (0.014), which is less than (0.05), which means the difference between the pre and post tests and in favor of the post test, as for the (VO_2max) test, the mean difference between the two tests of the experimental group was averaged. (5.44) and the deviation of the differences (1.7053) and the calculated value of the T-test for correlated samples reached (7.133) with a significance level (0.05) and a degree of freedom (4), and the value of (Sig) (0.002) is less than (0.05), which means the significance of the differences between the pre and post-tests in favor of the post test, as for the mean difference between the pre and post-tests of the control group (1.16) and the deviation of the differences (0.6768) and the calculated value is to test (T-test) for correlated samples (3.833) at a level of significance (0.05) and a degree of freedom (4), the value of (Sig) (0.019) is less than (0.05), which means the significance of the differences between the pre and post-tests in favor of the post-test.

Table (6) shows the mean, standard deviations, (T) test value and the level of significance between the post-tests between the experimental and control groups in the functional indicators tests.

Functional indicators		Group	Mean	Std. deviation	(T) Calculated	Sig level	Sig Type
Test	Measuring unit						
Lactic acid	Millmole / liter	Experimental	14.840	0.7021	4.262	0.003	Sig
		Control	13.420	0.249			
VO2max	Milliliter / kg / Minute	Experimental	68.72	2.1324	4.380	0.002	Sig
		Control	62.18	2.5694			

N = 10 degree of freedom (n -2) 5 + 5- 2 = 8 and level of significance (0.05).

Table (6) shows that the arithmetic mean of the experimental group in the mean of the experimental group in the post-lactic acid measurement test was (14.840) and the standard deviation (0.7021), while the control group had its mean [13] and the standard deviation (0.249), the value of (T-test) calculated for non-correlated samples was (4.262) at a level of significance (0.05) and a degree of freedom (8), and the value of (Sig) was (0.003), which is less than (0.05), this means that there is a statistically significant difference with regard to the two research groups and in favor of the experimental group, as for the arithmetic mean of the experimental group in the dimensional maximum oxygen consumption (VO_2max) test, it was (68.72) and the standard deviation (2.1324), as for the control group, its arithmetic mean was (62.18) and the standard deviation (2.5694), and the value of (T-test) calculated for non-correlated samples was (4.380) at a significance level (0.05) and a degree of freedom (8), and the value of (Sig) was (0.002), which is less than (0.05), this means that there is a statistically significant difference with regard to the two research groups and in favor of the experimental group.

Discussing the difference between the results of the pre and post-tests for the two research groups and the (T) values of the post-tests between the two experimental and control groups in functional indicators:

From a review of the statistical significance tables (5 and 6), physiological indicators (heart rate, lactic acid concentration, and maximum oxygen consumption (VO_2max) between the pre and post-tests of the two research groups and the post-tests between them, it is evident that there has been an improvement in each of them in the tests and the superiority of the experimental group on control group, the researcher attributes this

result to the proposed exercises that were applied to the experimental group of youth runners, in which repetitions, training stresses and rest periods were codified based on the physical and physiological capabilities of the runners, which were codified through the trainer's knowledge of the responses firsthand through the time of cutting distances during training, "That a person who has the ability to metabolically adapt is characterized by the ability to work for long periods with low rates of consumption of sources of energy production in the body, that is, the availability of what is known as the economy in the consumption of energy stocks [14] , Imad al-Din Abbas states, "The pregnancy given to a player causes excitement and change in the vital organs and systems of the body in terms of function and chemistry, and this appears in the form of improvement in the adequacy of the various organs and systems", in addition to the distinction of performance, economy by effort, as a result of continuing to perform pregnancy despite the onset of feeling tired and then begins to adapt to this pregnancy [15] and Bastwissi Ahmed mentioned that "the efficiency of muscular work is related to the presence of a large proportion of oxygen in the muscles or its transfer from the lungs to the muscles for movement by means of aerobic and anaerobic reactions [16].

Conclusions

Based on the research results reached within the limits of the research community, the following conclusions have been reached:

4- Speed endurance training have given progress in the level of the (800) meter runners in this test, and they need to be steady and avoid fluctuation in the variations in the values of this test.

5- The results showed the superiority of the experimental group over the control in the physiological indicators (lactic acid concentration, the maximum oxygen consumption (VO_2max)) in the post-tests.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the General Directorate of Education in Babylon and all experiments were carried out in accordance with approved guidelines.

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