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THE EFFECT OF RESISTANCE TRAINING ON THE DEVELOPMENT OF SOME PHYSICAL ATTRIBUTES AND THE COMPLETION OF THE 800-METER RUN FOR ROOKIES

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Abstract

The importance of the research lies in the use of resistance exercises As for the research problem: There is a weakness in the use of special exercises in the style of resistance training, as well as a lack of interest in resistance exercises when developing physical qualities, especially muscle strength, which is one of the reasons for the low level of endurance for runners, which suffers from the level of achievement of the 800-meter run.

Keywords: resistance exercises, physical traits.

The Objectives of the Research:

To prepare exercises using the method of resistance training in the development of physical characteristics and its impact on the completion of the 800-meter run for the members of the research sample, and to identify the impact of these exercises in developing some of the physical characteristics of the members of the research sample.

As for the research hypothesis: There are statistically significant differences between the pre and post tests in the tests of some physical characteristics and the completion of the 800-meter run among the research sample.

While the research areas included the following:

The human sphere: a sample of junior players. And the temporal field: 3/2/2022 until 5/22/2022, and the spatial field: Al-Bayaa Center of the Iraqi Athletics Federation.

1- Defining the research:

Introduction and the importance of research:

Scientific methods and new and modern technologies contributed to helping researchers, scholars and those responsible for the development of the training process for all fields of sports training, which led to changing and overcoming the old and approved means and methods in sports training from the realm of

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speculation and coincidence to the adoption of modern scientific methods that lead to knowledge of the impact of sports training on the development physical traits.

Every sporting event requires the athlete to have a good level of physical capabilities, and since the training methods and programs play a major role in determining the physical capabilities to evaluate the sports performance during the various training stages, in order to know the aspects of the athlete's strength and weakness and to avoid errors that occur during performance.

Athletics events are among the sporting activities that differ from one another in terms of characteristics and components, as they include running, jumping and throwing. Running activities include many types, including what is called short distances, and others called medium and long distances.

The use of new types and modern training methods in order to improve athletics players in general and short-distance players in particular, is one of the most important and necessary requirements that must be paid attention to in order to raise the levels of these players to the highest possible level. Modern training methods to improve short-distance running players according to the important requirements and the necessity of their availability, so the researcher used the resistance training method, which is a method that relies on the use of various resistance exercises continuously and for a specific period of time, such as jumping over barriers, as well as weight training with different weights and intensity and a standardized training volume In order to know the extent of the impact of these exercises on the development of strength for performance and the development of some physical attributes in order to reach good achievement according to performance and an elaborate motor path, in the short distance race, which is the 800-meter race.

The 800m running event is one of the activities that are characterized by strength, speed and special endurance.

The importance of this study lies in the use of the method of resistance exercises, which leads to integration in the level of technical performance and the development of the physical characteristics of the runners of this 800-meter running competition among rookies to achieve good technical performance of the motor path of the event. Obtains the physical characteristics of the player, directly affects the parts of the movement, and thus there is a development in the correct motor path in the performance, which enables the runner to exploit his own powers to resist the external forces affecting the performance and move the body parts in a smooth manner to ensure the achievement of the requirements for

success in the successive stages of effectiveness and the achievement of the goal in full Face.

Research Problem:

The technical (technical) differences between the world champions are very specific in achieving digital achievements, which made the increase in the intensity of competition and for various levels among the things that emerged at the international and regional levels for various sporting events by relying on various sports sciences and the extent of the overlap of these sciences in order to develop these Achievements, especially in athletics, as researchers and trainers focused on developing training curricula that included the use of modern training methods to develop physical attributes related to the type of effectiveness or skill required, in addition to raising the efficiency of functional and mechanical indicators. We see that most of the training curricula did not give focused importance to studying the effects of this type of physical training using resistance, and thus the development of physical abilities, which positively affects the technical and technical aspects of the motor performance of the effectiveness or skill that the player performs, and that the training is based on scientific methods that depend in its study on Physical and mechanical aspects.

Hence, the problem of the research came in studying a new training method that took its share in the field of application for various training levels, which is a method of training with different resistances, which may give positive effects as an added training method for its impact on developing speed, strength and the rest of the elements of physical fitness and raising the athlete's efficiency functionally and mechanically for short distance runners Among them is the effectiveness of 800 m. Through the experience of the researcher in the fields of teaching and training in athletics and his follow-up to the training curricula and his access to modern scientific sources and research, he noticed that most of the exercises used by the trainers in the training curriculum are either running exercises with variable distances and without the use of resistance to strengthen the muscles of the body, or the use of strength training and no It attaches importance to endurance or stretching exercises, as well as some use quick strength training using weights for the legs only without using exercises for the rest of the body muscles, which are exercises that have positive effects in developing the muscle strength of the legs for sure, but they do not develop the rest of the muscles of the body and they are important in the movement of the body as well as the motor path For runners, the

use of the method of resistance exercises and appropriate training doses and by using the scientific method continuously and for appropriate periods of time is commensurate with the training of physical abilities as well as the technical performance of the effectiveness of running 800 m and knowing its impact on the development of physical characteristics as well as performance and the possibility of developing the mechanical conditions associated with this training for runners 800 meters Young people, which made the researcher to resort to using this method for the purpose of raising the level of technical, physical and mechanical performance. Thus, the researcher can provide some scientific training solutions that may contribute to raising the digital level of this even.

1-3 Research objectives:

1-Preparing exercises using the method of resistance training and its impact on some physical characteristics of the research sample.

2-To identify the effect of resistance training exercises on the physical attributes and achievement of the 800-meter run for the research sample.

3-Identifying the results of the differences in physical characteristics and achievement of running 800m between the experimental and control groups in the post tests.

Research Hypotheses:

The researcher worked to achieve the research objectives by selecting the following hypotheses according to the research variables.

1-There are statistically significant differences between the results of the pre and post tests in the tests of physical traits and the completion of 800 m among the research sample.

2-There are statistically significant differences between the results of the post tests in physical attributes and achievement in running 800m between the control and experimental groups, in favor of the experimental group.

Research Areas:1-5

The human field: an elite group of young runners (14-16 years old)**1-5-1**

1-5-2Time range: from 2-3-2022 to 22-5-2022.

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1-5-3Spatial field: Athletics Center in Al-Bayaa affiliated to the Iraqi Athletics Federation.

3-Research methodology and field procedure:-

Research Methodology:3-1

The experimental approach was used to design the two equal groups (the control and the experimental) due to its suitability to the nature of the research problem.

3-2 The research community and its sample:

After the researcher identified the research community by the intentional method of junior 800-meter joggers, who are the players of the Specialized Training Center for Athletics affiliated to the Iraqi Athletics Federation, who numbered (12) players, whose ages were from (14-16) years, they were divided into two groups by (6) players for each group, and the homogeneity of the research sample was verified in the variables (height, body mass, age, and the training age of the players), as the control group carried out the training exercises approved by the trainer, while the experimental group adopted the same training curriculum approved by the trainer except for the exercises in the style of Resistance exercises prepared by the researcher. In order to make sure and ensure a single line of initiation between the two groups, homogeneity and equivalence between the two groups were carried out in the traits investigated using the law of t for independent samples, and the results appeared to be statistically insignificant in all traits.

Schedule(1) It shows the homogeneity of the research sample

torsion modulus	standard deviation	Mediator	Arithmetic mean	adjectives	T
0.50	0.71	15.50	15.38	chronological age	1
0.77	5.15	173.00	171.67	height	2
0.93	2.81	58.50	59.37	weight	3
0.15	0.81	1.62	1.58	training age	4

It appears from Table (1) that the sample was homogeneous in the variables of chronological age, height, weight and training age, as the value of the torsion coefficient ranged between (± 3), and this indicates the homogeneity of the sample members.

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Schedule(2)

It shows the equivalence between the experimental and control groups in terms of physical characteristics and the achievement of the 800-meter run

T	Measurements and tests	the control group		experimental group		measruing unit	The calculated T value	The result
		±p	- S	±p	- S			
1	Vertical jump from stability	0.154	2.533	0.146	2.497	poison	0.22	random
2	sprint jump test10sec	2.592	56,380	2.730	56.383	meter	0.15	random
3	150m run test	0.926	18.403	0.909	18.650	second	0.13	random
4	800m running test	0.906	18.653	0.909	18.650	second	0,912	random

3-3 Research tools and devices used:

Research tools:3-3-1

To complete the correct scientific procedures, the following scientific research tools have been relied upon:

- Technical and observation experimentation -
- Personal interview.
- questionnaire.
- Tests and measurements.

Equipment used.3-3-2

-Stop hours(3)

Manual electronic calculator.-

Computer (Pentium Four).-

-Medical scale to measure weight and height.

Athletics arena. -

Steps to conduct the research.3-4

Exploratory experience.3-4-1

The researcher conducted an exploratory experiment for the importance of this experiment in order to obtain accurate results to identify the efficiency of the tools used and to stand on the research variables as well as to train the assistant team. They run 800m on Tuesday 1-3-2022 at four o'clock in the afternoon.

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3-5Tests used in the research.

The researcher used the standardized tests according to the opinions of experts and specialists after surveying their opinions through personal interviews in order to choose the most important tests for developing the physical characteristics of the emerging runners, as well as developing the achievement of running (800m).

3-5-1Pre-tests

The researcher used the pre-tests with the assistant team to assess the level of achievement of the research sample, which is to identify the level of physical capabilities enjoyed by the research sample, as well as to identify the achievement in the 800-meter run, as the tests are the most important means for assessing the level of athletes as well as evaluating the program prepared by The researcher and its suitability for athletes, as pre-tests were conducted for their importance before implementing the program to know the status of the athlete.

Physical exams:3-5-1-1

Long jump stability test: 3-5-1-1-1

-The aim of the test: measuring the explosive force of the muscles of the two legs.

-**Tools and supplies:** a long jump pit and a tape measure.

-Description of performance: The tester stands on the ascent board so that the feet are comfortably apart, the tester bends his knee and leans his torso forward with swinging hands (behind, in front) and then jumps forward to reach the farthest point (distance) possible.

-Recording: The distance is measured from the beginning of the starting line (the ascent board) to the nearest point left by the tester on the ground when landing after completing the jump, using a measuring tape in the unit (meter). Each tester is given three attempts and the best between them is calculated.

jump run test in 10 seconds: 3-5-1-1-2

The aim of the test: to measure the force characteristic of speed.

Tools and supplies: a stopwatch, a line drawn on the ground, a signal to start jumping, a sign.

Description of the performance: the tester stands behind the starting line at a distance determined by the tester to perform an approximate run, and when the tester reaches the starting line, the evaluators start running the clock coinciding with the start of the player's run by jumping until the time reaches 10 seconds. distance later.

Recording: records the distance traveled by the tester in 10 seconds.-

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-150: meter run test from flying position3-5-1-1-3

Objective of the test: To measure speed tolerance

Equipment and supplies: a stopwatch, a whistle, and an oval running field

Description of performance: The tester stands on the running field behind the starting line, and when the start signal is heard, the tester runs from the standing start (high start) as quickly as possible to cover the specified distance until he reaches the finish line.

Recording: The time is calculated from the starting line to the nearest fraction of a second.

-The tested runner crossed a distance of (30) meters only in the questionnaire in seconds and to the nearest (0.01) of a second.

Second: an 800-meter run test:

-The purpose of the test: to measure

-Performance method: The runner takes the starting position from sitting at the start of the (800) meter race. After hearing the whistle, the runner starts at full speed, and at the same time the timing starts from the timer.

-Tools used: a starting cube, a 400-meter track, a whistle, a stopwatch, and a sign.

-Registration: The registrar stops at the end of the (800) meters race, then the registrar records the time spent in seconds achieved by the runner for the distance specified in the registration form, to the nearest (0.01).

3-5-2 The exercises used in the program:

The experimental group is trained according to the program prepared by the researcher, which is exercises in the manner of resistance training, which is the use of appropriate weights as well as the use of tools that contribute to the development of muscle strength in the trunk, legs and the rest of the body parts. The training load was determined in relation to the appearance of fatigue among the players, as the exercises are distributed On all muscle masses of the body and improve their work by using suitable resistances for each part of the body, and the training units were distributed at the rate of three training units per week, and the number of training units reached (30) units, and the low and high intensity interval training method was used from (60-90%) of In order to develop strength endurance as well as speed endurance. The training was according to the principle of gradual training loads, as the exercises used were by using some weights on the legs as well as jumping off boxes to strengthen the explosive force as well as linking the body from the middle with a rope and pulling a weight through In addition to using body weight in exercises, the loading mechanism was (1-3) in the four weeks

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from the start of the training program, after that the loading mechanism (1-2) was used in the first week. The fifth and sixth were appointed after that, the researcher followed the loading mechanism (1-2) in the last two weeks in order to benefit from the exercises that were developed to increase endurance and increase muscle strength as well as develop speed endurance and muscle strength endurance, noting the training volume and its proportionality with training intensity, repetition and intensity level By measuring the pulse as well as watching the players during training in the event that the players reach the stage of recovery in order to increase the adaptation and benefit from the prepared program, so the researcher proceeded to distribute the training loads for the study, while the control group trained according to the training curriculum prepared by the coach, and the training continued For eight weeks, from 2/3/2022 to 21/5/2022.

Post-tests

The post-tests were conducted on Monday, corresponding to May 23, 2022 until Tuesday, corresponding to May 24, 2022 at four o'clock in the afternoon, at the athletics training center stadium in Al-Bayaa Center. The tests were applied with the same specifications and procedures as the pre-tests and in the same order.

3-7Statistical Methods:

The researcher used the Spss statistical package.

Presentation, analysis and discussion of the results:

4-1 Presenting, analyzing and discussing the results of the pre and post tests of the physical tests under study:

4-1-1 Presentation of the arithmetic means and standard deviations in the results of the pre and post tests of the physical tests:

Schedule(3)

It shows the arithmetic means and standard deviations in the results of the pre and post tests in the physical tests

Test	measruing unit	Pretest		Post-test	
		s-	-p	s-	-p
Long jump from standing	meter	2.197	0.136	2.533	0.154
Jogging by jumping for 10 seconds	meter	56.383	2.730	61	4.592
Run 150 meters from the flying position	second	18.650	0.909	18.403	0.826

4-1-2 Presenting and analyzing the results of the differences (t) test between the results of the pre and post tests in the physical tests:

Schedule(4)

It shows the arithmetic mean of the differences, its standard deviation, the calculated (t) value, and the significance of the differences between the results of the pre and post tests in the physical tests.

Test	measruin unit	P-	p f	The calculated (t) value	error level	The level of confidence	Significance of differences
Long jump from standing	Meter	0.336	0.144	5.736	0.002	0.998	Moral
Jogging by jumping for 10 seconds	Meter	4.633	3.428	3.311	0.021	0.979	Moral
Run 150 meters from the flying position	Second	0.247	0.141	4.291	0.008	0.992	Moral

Discussing the results between the pre and post tests of the physical tests:4-1-3

It is clear to us by presenting Table No. (3) and analyzing its data. All results showed significant values in the post-tests and for all physical characteristics, namely:

A. Long jump from standing.

B. Jogging by jumping for 10 seconds.

e. Run 150 meters from the flying position.

And all these tests were with high values in the post-tests and comparing the results of the research sample with the pre-tests. It becomes clear to us the differences in the (t) values calculated from the tabular (t) values of (2.57) and with a level of significance (0.05) under a degree of freedom of 6-1 = 5. This is proven by During the implementation of the field experiment items (on the long jump test of steadfastness), the effect of these items was positive through the development of the working muscles that contribute to the performance values of this test, and because the explosive power of the muscles of the two legs must be related to the ability of the working muscles to perform work to determine a distance Jumping, and this is based mainly on the value of applied exercises

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contained in the curriculum prepared by the researcher, which was applied to the experimental research sample, which was sufficient to create muscular adaptations to perform the required physical ability.

And the process of upgrading the explosive capacity of the muscles of the legs depends on several requirements for this ability that are required by athletics activities in a large way, especially relying on exercises by weighting, i.e. placing weights on the legs or arms, as well as using the weight that is attached to the body, which is one of the important exercises in developing muscular strength Accordingly, the researcher relied on organizing the vocabulary of applied exercises related to the vocabulary of the curriculum, resistance exercises according to the law of force hindering the development of physical characteristics, which focus during its exercises on giving the maximum character of performance and in turn produces high stimulation of muscle fibers working with maximum energy to accomplish work with calculated instantaneous explosive force In a very short time.

From the point of view of sports training, the exercises used as resistance exercises and in the direction towards the development of rapid and explosive strength and speed, and this is proven by the results of the differences that we have previously referred to and through which the speed of running movements is developed and the special strength is also developed, and thus it was reflected in the results of testing the explosive ability of the muscles of the legs in Develop physical capabilities.

The researcher believes that advancing the level of physical abilities by performing any sporting skill or activity will contribute to the development of the level of achievement of that skill or effectiveness in a positive and effective way, and that the exercises that were used also contained exercises to develop the motor performance of running using resistance exercises with weights, noting that these exercises are also It serves the motor path of the performance, and the intensity of the application of the exercises ranged between "semi-extreme and maximal and from different distances for the purpose of reaching the optimal speed required by the activity or movement, and it is one of the measures that develop the technical performance.

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adjectives	measuring unit	Pretest		Post-test		t value calculated	tabular t-value	significance level
		S-	+P -	S-	P-			
800meter run achievement	minute second	2,421	0,084	2,377	0,081	11,610	3,51	moral

Schedule(5)

It shows the results of achievement in the 800m event in the pre and post tests and the comparison between them

Tabular (T) value below the level of(0.05).

It is clear from Table (5) that the arithmetic mean and standard deviation of the 800-meter running achievement test for the pre-test is equal to (2.421 - 0.084), while the post-test is equal to (2.377- 0.81), and the calculated (T) value is (11.610), while the tabular (T) value was (3.51) at the level of significance (0.05) and in front of a degree of freedom (7), and since the calculated value is greater than the tabular value, this indicated the significant differences between the pre and post tests in the variable of achieving the 800-meter run in favor of the post test.

4-1-4Discussing the results between the pre and post tests in the completion of the 800-meter run:

By observing the analysis of the results of the tests in the completion of the 800-meter run, we notice that there is a significant improvement among the research sample members, and this is due to the use of resistance training and its impact on the development of physical characteristics, which led to the development of the results of the 800-meter run. The results showed after completing the training curriculum that there are significant differences from As a result of the statistical operations that took place for the pre and post tests as a result of these tests, it was found that there was a development in the level of physical characteristics through the paragraphs of the proposed training curriculum developed by the researcher, which led to improvement in the completion of the 800 m freestyle run for the experimental group. This improvement is due to the effect of the training curriculum practiced by the experimental group. The researcher believes that raising the physical attributes in relation to effectiveness means a development in (endurance of strength, endurance of speed, and endurance of strength distinguished by speed), which leads to the improvement or raising of the athletic

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level and the development of the level of achievement. Hence, we see that this training curriculum is of great importance in improving the level of digital achievement, and this Fixed in the tables above, hence the importance of training in achieving the best possible achievement and raising the athletic level (The training and the use of types of Optimum rest between repetitions leads to the development of the level of achievement), ( ) This is also due to the extent and type of training method used in the training curriculum prepared by the researcher, as the researcher used the method of resistance exercises of wavy intensity between high intensity and low intensity between the weekly training units through this The training method used by the researcher on the experimental group, which led to achieving a tangible and remarkable achievement through the two pre and post tests that were conducted and the results of which were presented in Table (5) in these two pre and post tests to complete the 800 m run, which showed the presence of significant differences clearly and significantly in favor of the research group, i.e. the group This is through the clear development that occurred to the experimental sample members during the performance of the training process through which it was found that there are differences in the arithmetic mean of the research sample members between the pre and post tests by presenting them in Table No. (5), which indicates that there are significant differences In the results, it confirms that there is a development in the level of final achievement, and this indicates that the course of the training curriculum has taken on a positive nature with the experimental sample. The resistance exercises that were used on the research sample and the results obtained by the researcher from the tests show that there is a development in the training curriculum for the sample in the post-test according to Table No. (5), which indicates that the training curriculum has a clear and positive effect on the research sample, and this is what the research objective is based on.

Conclusions and Recommendations5-

Conclusions: 5-1

1-The method of resistance training led to the development of the physical characteristics of the research sample.

2-The method of resistance exercises led to an increase in achievement among the research sample.

3-There are statistically significant differences between the control and training groups, in favor of the experimental group.

4-There are statistically significant differences in the post-tests between the control and experimental groups, in favor of the experimental group.

Recommendations:

1-The need to use resistance exercises for the purpose of developing the physical qualities of the young players in athletics.

2-The need to use resistance exercises for the purpose of developing achievement among young athletes in athletics.

3-The need for the training curriculum prepared by the coach to contain resistance exercises when training to develop the physical characteristics of the players.

4-Conducting research and similar studies regarding the use of resistance exercises in various athletics events and for different age groups.

Arabic and foreign sources:

-Bastawsi Ahmed; Fundamentals and theories of sports training. Cairo: Dar Al-Fikr Al-Arabi, 1999.

-Qais Naji Abdul-Jabbar; Tests and principles of statistics for the mathematical field, Baghdad: National Office, 1987. .

-Muhammad Ibrahim Shehata and Muhammad Jaber; Manual of physical measurements and motor performance tests, Alexandria: Manshaat Al-Maarif, 1995.

-Muhammad Atef Al-Abhar and Muhammad Saeed Abdullah; Physical fitness, its elements, and its development, Saudi Arabia: Dar Al-Islah, Dammam, 1984.

-Wadih Yassin, Yassin Taha; Physical preparation for women. Dar Al-Kutub for printing and publishing, University of Mosul, 1986.