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The effect of intensity of speed competition exercises in the heavy competence speed in the ascending hierarchical method in developing some physical abilities and the achievement of 100 m running competition under the age of 20

[1]Asst. Prof. Dr. WISAL SABEEH KAREEM

Abstract

There are many factors that affect training and achievement development, including the use of methods and training methods, and that the choice of regulated exercises contribute to the development of the level of athletic performance because they have a direct impact on achieving achievement and thus be a clear indication of the development of the athlete and bring him to higher levels, and the goal of the research is to prepare and identify exercises Strongly the speed of competition with weighting in the ascending hierarchical method in developing some physical abilities and accomplishing the 100-meter sprint under 20 years, and the research imposed exercises strongly with the speed of competition by weighting in the ascending hierarchical method in developing some physical abilities and achieving a 100-meter sprint under 20 years old. And she took it The researcher has an experimental approach by designing the two equal experimental and control groups and determines the research community for a competition of 100 meters young men with (12) runners under the age of 20. The speed of competition with weighting exercises was applied in a hierarchical way up on the experimental group for a period of eight weeks and by three training units per week. The researcher used Statistical Portfolio (spss) To process the data and the researcher reached the most important conclusions that can be relied upon in developing physical abilities and accomplishing other competitions (200 meters, 400 meters, 110 meters hurdles, 400 meters hurdles), as their achievement is linked to achieving the shortest possible time.

Keywords: *intense training, exercises, speed, competition, ascending hierarchical method, physical abilities, running 100 meters.*

Introduction

Research problem : The achievements of the 400-meter competition players during the previous and current years for young people all did not indicate a tangible development from what it is, and despite the great development in this competition globally, so there are many factors that affect training and achievement development, through the researcher's modest experience and presence in The Iraqi clubs championships that are held by the Iraqi Central Athletics Federation through its annual program. There is a weakness in the

[1] Faculty of Arts/University of Baghdad, wesalsabeeh2020@gmail.com

physical level and special endurance capabilities, so the researcher decided to use weighting weights added to the two men as these exercises contribute to diversifying and changing exercises in an ascending hierarchical manner and developing their physical and technical abilities to reach a higher level.

*Research objectives***:** Preparing exercises strongly the speed of competition with weighting in a hierarchical ascending method in developing some physical abilities and accomplishing running 100 meters under 20 years old. - Identify the effect of exercises strongly competing speed with weighting in a hierarchical ascending method in developing some physical abilities and accomplishing running 100 under 20 years old.

The research assumption: - Exercises intensely the speed of competition with weighting in a hierarchical ascending method has a positive effect on the development of some physical abilities and the achievement of running 100 meters under 20 years old.

Literature review

In our modern era, the world has witnessed development in various industrial, economic, scientific and technical fields, as it is reflected in the competitions and sports games. Achievements in sports competitions are based on scientific foundations, especially educational principles, to reach mathematical integration through organized and precise effectiveness on the capabilities and capabilities of the athlete to bring him to the highest possible level. **(Adel Al-Basir, 2004)** In specific sports competitions or competition has to achieve athletic progress in sports training. The athletics one of the competitions of sports competition , which occupies the status of the achievement of the sports progress key feature in the system and the scheduling of programs courses Olympic and world, as it has become practiced in various countries of the world of its own scientific and practical goals, it has appeared in the recent rapid development of the digital achievement to run 100 meters In the world, the technical performance of running has developed and this does not come randomly, but rather through the training efforts undertaken by the coach and the player, the use of advanced training methods and the preparation of highly codified exercises, the speed of competition by weighting in a hierarchical ascending method to increase the efficiency of the main muscle groups and the related assistance with effectiveness, which ultimately helps increase the production of special strength. **(Peter, 2009)** The necessity that contributes to the development of achievement for short-distance runners, the 100-meter running competition is one of the short-distance rapid competitions in athletics, in which the physical abilities that must be provided to achieve high speed and to improve kinetic ability to speed are played. Technique training for athletes that increases the performance of movements the main ones that produce forward thrust and raises the velocity during each movement. The athlete's doing it leads to an increase in speed, the more repetition the movement, the greater its frequency, the kinetic stability and the stability of the maximum speed obtain. **(Matthew, 2010)** To achieve the best results and this requires high physical capabilities and capabilities. Hence, the importance of this research is evident by studying the effect of intense weight training exercises with a hierarchical ascending method in developing some physical abilities and achieving 100-meter sprint less than 20 years. In order to set exercises for the development of this competition and the control, adjustment and physical adaptation that are directly related to the level of achievement and development of the digital level in the 100 U20 competition. **(Thomas, 1992)**

Methodology

*Research methodology***:** The researcher used the experimental research method by designing and designing the equivalent experimental and control groups.

Research community **:** The researcher identified the research community with the players of Babylon governorate clubs for the competition of running 100 meters under the age of 20 (five clubs) and clubs (Al Mahawil club, Al-Qasim club, Al-Hillah club, the project was conducted, Al-Kafeel club) and those who participated officially in the tournaments established by the Central Federation of Athletics For the 2019 season, their number (10 runners) were divided into two groups, the experimental group (n = 5) and the control group (n = 5), and they were divided by the odd and even numbers method according to the sequence of their achievements.

Table (1) shows the homogeneity of the sample

T	Variables	measuring unit	Test value (Leven)		Indication of the difference
			Calculated	Standard error	
1	**Age**	Year	1,233	0,363	Immoral
2	**Age of training**	Year	0,412	0.431	Immoral
3	**Bloc**	Kg	0,104	0,787	Immoral
4	**Length**	cm	1,612	0,511	Immoral

Table (2) shows the equivalence between the two groups of research in physical variables and achievement

variable	measuring unit	Experimental group		Control group		T value Calculated	Level of morale	indication
		Q ´	± p	Q ´	± p			
Sprint 30 meters from the flying start	a second	4.01	1.22	4,20	1.43	0.143	0.954	Na D.
Withstand 100 jumping strength	a second	17.10	0.54	18.05	0.75	0.112	0.913	Na D.
Withstand speed 80 meters	a second	9.80	0.33	10.01	0.45	0.722	0.465	Na D.
XD 100 meters	a second	11.10	1.61	11.46	1.02	0.276	0.745	Na D.

*** Significant at the significance level (0.05) if the error level is less than (0.05).**

From the previous two tables, the randomness of the differences between the two experimental groups becomes clear in the variables under investigation at the level of significance (0.05) and at the degree of freedom (10), as all error levels appeared greater than (0.05), which indicates the homogeneity and equivalence of the two research groups. In all the tests are under investigation.

*Means, devices and tools used in the research***:** 1/1 video camera at 180 p/s. various measuring tools (tape measure, whistle). Manual type stopwatch (smartime) Number (10), **A** tie with relative weights of different weights (for the two men). Laptop HP Korean, electronic hand calculator, type (CASIO). Enemy Legal Domain) 100) M. . Plastic cones of different sizes, count (50). (8) Flags of white and red colors.

1. **The enemy (30) M. From the Flying Starting**

- *The purpose of the test***:** to measure the maximum speed.
- *Performance description***:** The laboratory stands behind the first line. When the start signal is heard, the enemy runs until it crosses the third line, provided that the laboratory time is calculated starting from the line observer's signal from the moment the laboratory reaches the second line until it reaches the third line.
- *Measurement tools and devices***:** stopwatch, three parallel lines drawn on the ground, the distance between the first and second line (10M, the second and third lines (30) M. **(Muhammad, 1989).**

- *Recording***:** The registrar records the time taken by the test runner in his questionnaire in seconds to the nearest (0.01) from the second.

2. Strength test

- *The e Dave***:** ran by jumping to a distance of 150 meters from the stand
- *Purpose of the test*: To measure the strength tolerance.
- *Tools used***:** running track - manual stopwatch - firing pistol
- *Performance description* : The laboratory stands behind the 100-meter line, i.e. the starting point of the 100-meter run, after which the launcher instructs (Take your place - attend) and then start and start running by jumping (run in the form of reciprocal stability) a distance of 100 meters to the finish line, so that the tester completes the test. **(Matthew, 2010)**
- *Recording***:** The recorder records the time taken by the athlete in his questionnaire, in seconds, to the nearest 0.01 second, and each athlete from among the sample members makes one attempt for this test.

3. Sprint test (80From the Flying Beginning

- *Purpose of the test***:** to measure the speed tolerance.
- *Performance description***:** The tester stands behind the first line (the enemy from the high start) and upon hearing the start signal, the enemy runs at full speed until he crosses the third line. Calculates time for a distance (80M from the second line observer's signal until the player's arrival at the third line.
- *Measurement tools and devices***:** running field100 Legal m - stopwatch, whistle, three parallel lines drawn on the ground, the distance between the first and second line) 10M, the second and third lines 80)) M. **(Peter, 2009).**
- *Recording***:** The registrar records the time taken by the test runner in his questionnaire in seconds to the nearest (0.01) of a second.

4. **Achievement test 100 meters sprint**

- *The purpose of the test***:** Measuring achievement of 100 meters.
- *Method of performance***:** The runner takes the starting position from sitting at the start of the 100-meter race. After hearing the whistle, the runner starts at full speed, and at the same time the timing starts from the timers.
- *Tools used***:** a starting cube, a legal field of (100) meters long, a whistle, a stopwatch, a sign.
- *Recording***:** The recorder stops at the end of the 100-meter distance, then the recorder records the time taken by the runner for the distance specified on the registration form, and to the nearest (0.01) of a second. **(Jürgen, 2011)**

Exploratory experiment: conducted a researcher of an exploratory experiment on Wednesday 3rd / 7/2019 on four of the players ran 400 meters from the research community, to apply the tests on them and the application of the pilot program.

1. Determine the difficulties and obstacles that will arise during the implementation and conduct of the tests.
2. Know when to do the tests and how long it takes.
3. The ability of the sample members to carry out the tests and their suitability for them.
4. Identify the added weights necessary to carry out the experiment and tests.
5. See the training program Hardcore exercises Speed competition weightlifting hierarchy style.
6. Determining training intensity through tests to be implemented on experimental groups.

The main experiment: The researcher used in the exercises the method of weighting according to the weight of each part of the body, and the weight was based on (the two legs), where the weight of both (legs) was extracted from the total body weight by multiplying the total body mass multiplied by the percentage of the part, and thus we get the weight of the set, and the other equation we extract weight to be added to the part by the mass struck by the intensity of the desired weight shedding on the specific parts.

The researcher used the laws of relative force:

Laws of the relative strength of two men:

The first step - the relative mass of the legs relative to the body (19.13) X 2 = the ratio of the mass of the legs to the body.

The second step - the ratio of the mass of the legs to the body X Body mass = the ratio of the mass of the legs to the body of each player. **(Adel Al-Basir, 2004)**

That the total body mass is equal to (77) kg and the percentage of the two men is (38.26), so the mass of the two legs will be, the total body mass x the percentage of the part = the mass of the part 77 x 0.3826 = **29.46 kg** representing the mass of the two legs.

*Extract the weight to be added***:** Weight to add strongly (0.06) would be. Legs Weight x Required Weight Intensity = Weight to be Died. **29.46** x 0.06 = 1.76. Then we divide this weight according to the following formula, the weight to be added according to the required strength for each leg.

Posteriori tests: a place researcher posteriori tests at the stadium of the Hashemite Club in Babil province on Tuesday, corresponding to 10 / 9/2019 (after the completion of the proposed exercises and the steps themselves and the circumstances in which the tests took place.

Results

1. **Presentation, analysis and discussion of the results of physical variables for the two research group:**

Table (1) the statistical treatment of the physical variables under investigation for the two research groups

Variables	the group	Tribal		Dimensional		Values (t) Calculated	Level of morale	Indication of differences
		Q ´	P	Q ´	P			
Sprint 30 meters from the flying start	T	4.00	1.23	3.91	0.87	10.92	0.001	moral
	Z	4.18	1.32	4.01	1.322	4.76	0.002	moral
Withstand 100 jumping strength	T	17.10	1.755	17.11	0.834	0.53	0.002	moral
	Z	18.03	0.745	17.90	0.5967	4.21	0.001	moral
Withstand speed 80 meters	T	9.80	0.511	9.65	0.64	1.65	0.004	moral
	Z	10.00	0.46	9.90	0.87	2.33	0.002	moral
XD 100 meters	T	11.09	1.61	10.94	0.23	1.21	0.000	moral
	Z	11.42	1.04	11.12	0.87	1.75	0.001	moral

*** Significance below the level of significance of ≤ (0.05) and before the degree of freedom (10-2 = 8).**

Table (2) Statistical treatment of physical variables in the post-test

Indication of	Values t	The	Control	Variables

differences			experimental course		Authority		
	Moral *	Calculated	P	s	P	s	
D.	0.001	1.10	0. 33	3.60	1.3 21	3.92	**Sprint 30 meters from the flying start**
D.	0.000	2.143	0.57	16.82	0.5 65	17.52	**Withstand 100 jumping strength**
D.	0.001	1.312	0.54	9.45	0.7 68	9.88	**Withstand speed 80 meters**
D.	0.002	3.243	0.687	10.72	0.686	11.01	**XD 100 meters**

*** Data level of significance (0.05) and before a degree of freedom (6 + 6-2 = 10).**

Discussion:

Presentation and analysis of the results of the table (3) And (4) Your variables search for some physical abilities (maximum speed, carrying power, carrying speed and achievement of 100 meters) and there are significant differences between tribal measurements and dimensionality in favor of post - test shows the evolution of both the tests and the superiority of the experimental group to the control group, attributes the researcher these differences to exercise strongly The speed of competition by adding weights heavy with the proportions of the body parts of the two men in an ascending hierarchical manner that contributed to the development of research variables according to the quality and science of training, so the more scientifically training was, the better the rate of development. For this attribute researcher of this development to the effectiveness of the exercises strongly competition speed by adding weighs heavily proportions body parts of the two men ascending hierarchical manner used scientifically through the training load components (intensity, size and comfort) that fit with physical variables under study requirements, so it concludes the researcher to choose short distances less And greater than the distance of the competition, whose performance is high enough to occur in response to the speed of the excitement and preparation for the atmosphere of the exercise and competition for the 100-meter competition, which has a high concentration ratio for what the competition requires of intensity and tension accompanied by relaxation and integrated muscle and physical compatibility, as the rated training loads have a great impact in achieving A good level, as obtaining the highest amount of force must be consistent with matching the doses of this force with the required movement and the performance time that must be appropriate to use this force in terms of movement speed. **(Thomas, 1992)** This is what (Jamal Sabri Faraj) confirmed. The speed training program should not be confused with the running training program, as there are many running exercises that are not appropriate within the program of jumping and jumping exercises, meaning they are not part of the speed development program, and for the purposes of this topic only we consider a development program Speed including training ran different distances which performs intensity optimum and least of optimum and under the general principles for the development of **(Jamal , 2019)** e n Altdrebh programs should be designed in a way that enables faithful to achieve the target investigator and his must take into account the weight and speed of muscle contraction and the number of repetitions and the number of groups and periods of rest between Duplicates and between totals. **(Muhammad, 2010)**

Conclusions

1- Exercises with speed, intensity of competition velocity, with weighting in an ascending hierarchical style had a positive effect on the experimental group compared to the control.
2- The training of intense competition speed by weighting in an ascending hierarchical manner among the members of the research sample led to their development in the pre and posttests.
3- There is an evolution in the experimental group in the dimensional physical tests compared to the control group members, which indicates the effect of the highly prepared program, the speed of competition by weighting in an ascending hierarchical manner.
4- There is an improvement in the performance of the achievement of the 100-meter runners for the members of the research sample between the pre and posttests.
5- The use of weights added to weight on the parts of the body in each standard as it gives a real indication of the reflection of training on internal pregnancy.
6- Paying attention to developing physical abilities in athletics competitions for short distances (200 meters, 400 meters, 110 meters hurdles, 400 meters hurdles).
7- Conducting similar studies on other age groups and for both sexes in athletics.

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