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The effect of the use a (Jump Trainer) training method by (Special force) and achievement for 200m young women

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Abstract

The researcher used the new training method (Jump Trainer) as a resistance force for the working muscles of short-distance athletics, and it is a relationship with the developing special strength. It also aims to identify the impact of the training method in developing the special strength of the effectiveness of (200m) for young women. The researcher pointed out that there are statistically significant differences in physical abilities and achievement between the pre and post-test of the research sample. The research sample included (4) players for the elite young women's class in Baghdad. The researcher used the experimental method for the research sample, which numbered (4), and cardiac tests were conducted on 22/1/2022. The training curriculum started to be applied for a period of (8) weeks, after which the post-tests were conducted on 3/23/2022. The results were calculated. Research variables Conclusions: The use of the training method (Jump Trainer) prepared by the researcher had an impact on the special strength in the effectiveness of (200m), and the recommendations are the need to use the training method in the training curricula. Training to develop the special strength of this event in various categories.

Keywords: Jump trainer, special power, 200m running achievement

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Definition of the research

1 - 1 Research Introduction and Importance

The athletics competitions have the greatest attention of coaches and researchers as the bride of the games (200m), so we see that there is a huge amount and an excellent type of research that links the characteristics and contents of these competitions with the various sciences, through which the highest levels of athletic achievement are reached in this or that competition. The training means, and trends for athletics, especially speed events, and coaches and researchers are looking for the best that can serve the training process and increase the records numbers development, and that the use of training methods aims to develop the level of sports performance to achieve high levels of achievement, and there are several training methods and their different effects motivate coaches to choose the training method that may be the most suitable in the development of achievement, So the researcher turned to one of the new training methods (JumpTrainer) And used as a resistance force for the working muscles of short distance runners, which is led to developing special strength, as well as the maximum speed of the event (200 m) for young women and is one of the modern methods of training, to rise and reach the best achievement. The effectiveness of (200 m) is one of the events of fast running with difficult requirements in terms of special physical and physiological capabilities required for the achievement because it is performed with maximum intensity, and the importance of research lies in the use of a training method to develop (special strength) and that the focus of training on the development of that ability being a major role in improving achievement. The research problem has been identified by the researcher's interest in this event and his knowledge of many researches and studies, where he found weakness among runners in the special strength as a result of the lack of use of modern training methods, including (Trainer Jump) resistance exercises for the working muscles of the category for young women for the event (200 m), which is the need to vary the training methods to add a high amount of special strength to the muscles to raise the achievement of this category and the researcher used ((Jump Trainer) as a new training method in raising the efficiency of the athlete special force for the contestants (200 m) and develops these sports events, especially short running events in order to obtain new results.

During that, the researcher set two goals

- The preparation of exercises by means of training for the event (200 m) for young women.
- Identify the impact of the training method in developing the special strength of the (200 m) event for young women.

The sample was four runners of the 200m running event for young women for the year 2021-2022. For the period from 21/1/2022 to 23/3/2022. And at the Jadriya Stadium / University of Baghdad / and the Ministry of Youth Stadium.

Part 2

2 - Research methodology and field procedures:

2-1 Research Methodology:

The researcher uses the experimental method to fit it into one group design with a pre-pos-test to solve the research problem. 3-2 Research sample:

The research sample included a group of 200 m runners from the category of young women in Baghdad province, who were selected in an approved way, numbering (4) representing (50%) out of the research community of (8) runners.

Then the researcher found the torsion coefficient for the research sample to ensure the homogeneity of the sample in the variables of height, weight and training age, as shown in Table (1), and the results showed that the torsion coefficient was limited between (0.45-0.386), which indicates the homogeneity of the research sample.

Table (1) Arithmetic means, standard deviations, median and torsion coefficient in length, time and training life variables.

torsion coefficient	median	standard deviations	**means**	**Variable**
0.045	58.50	2.061	58.38	**Mass/k**
0.386	163.00	2.035	163.25	**Length/m**

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0.068	4.00	1.641	5.13	**Training age**

3. Means, tools and devices used in the research:
2.3.1 Means used in research:

- Arab and foreign sources and references.
- Information Network (Internet).
- Observation and experimentation.
- Personal interviews.
- Tests and measurements. Supporting staff.

3.2 Tools and devices used in the research:

- Laptop type HP.
-Laser discs (CD) type (Imation).
- Metric tape measure (1).
- start gun
- athletics stadiums with international legal dimensions.
- electronic stopwatches Number (4).

2-4 Exploratory experiment:

The exploratory experiment "is a microcosm of what will be applied on the day of the actual implementation of the tests, as this is done on a small sample of the community to which the tests will be applied" (68:2), and in order to avoid difficulties that may face the researcher during the implementation of the main experiment, and to identify the strengths and weaknesses of the work and its validity, and to be accurate.

2-5 tests used in research:
2-5-1 Explosive force test of the two legs jumping to the farthest horizontal distance from the preparation position (78:3). -Objective of the test: To measure the explosive power of the legs at the moment of starting.
Tools used: whistle, starting bracket, distance tape and registration form. The performance method:
The starting tool is placed on the line of the approximate running near the edge of the hole. The runner takes the position of the runner to start by placing the first metatarsal on the front support and the other foot metatarsal on the back support and leaning on the fingers of the hands so that the distance between the arms is the width of the chest and shoulder and this is the preparation mode for starting, Then the runner pushes the strat tool with both legs and leaves the hands at the same moment, then the push is to the farthest horizontal distance in front of the jump and then landing on both legs in the hole and calculates the jumping distance. This applies to all female runners.

The score:

Each runner is given two attempts, and the best attempt is registered, the distance that the player jumps during the attempt with a tape measure from the front foot of the supports to the nearest trace in the hole.
2-5-2 the strength characteristic of the speed test of the two legs running by jumping ten jumps (right-left) (71:4):
The objective of the test:
To measure the strength characteristic of the speed of the legs from the starting position of stability.
Tools used: line to jumps, 2 funnel tape measures.
Method of performance:
The runner stands on a line drawn on the field as in the position of jumping from stability and pushes the ground with both legs in front of the farthest distance and then landing on one of the legs (right, then pushing the right and jumping a step forward and landing on the other leg (left) and so on for ten steps jumping right and left and the movement is performed quickly and the foot touches the ground as quickly as possible and then the total distance of the ten jumps is calculated from the front when standing at the beginning until the end of the last leg of the tenth jump.
The register: Each runner is given two attempts, the best attempt is recorded, and the distance is measured with a tape measure.
2-5-3 running Test (200) M (75:4):
The objective of the test:
Measure the achievement of the 200 m runners for young women.

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Tools used:
Stopwatch, whistle.
Method of performance:
The runner stop on the starting line and when she hears a directive (on the line) she takes a sitting position to start and when she hears the whistle she runs at high speed to the finish line.
The register:
The time is record using three hours and three temps, and the middle time is record from the three hours from the best attempt of three .
2-6 the main experiment:
2-6-1 Pre-tests: The pre-tests were conducted for a day (21/1/2022), on Saturday, and the researcher was recorded the circumstances related to all tests in terms of time, place, tools and devices used and the way to implement the tests, in order to try to create the same conditions for the post-tests.
2-6-2 Training Program :
Due to the experience of the researcher in the field of track and field as a former runner in speed events and a teacher in the Faculty of Physical Education and coach of the national team for short distances .
Work on the experimental curriculum began on 22/1/2022 until 23/3/2022 for a period of (8) weeks, the period of preparation of the special, and by two training units per week and on days (Monday, Wednesday) so that the total of (16) training units the time of each training unit (25-30) minutes from the training unit for the research sample using iterative training, the researcher focus in the main section of the training unit, Abu Al-Ela confirms that "the changes most of them resulting from training often occur within 6-8 weeks" (32:6) and the training curriculum has been developed for the research sample and they are hostile Towing 200 m ratio of work to comfort, which is a training based on the principle of ripple in the training load in the weekly units and this through the application of the principle of diversity in intensity, size and comfort, as Abu Ela mentions "The principle of ripple in the formulation of the training curriculum leads to better results and means ripple rise and fall training load and not to walk at one pace or one level" (17:6) gradation in the training load of the training curriculum and this through the application of the principle of diversity in intensity, size and comfort. The intensity time required for training has been extracted relative to the maximum time
Training time = maximum achievement × 100 / required intensity ..... (218:8)
2-6-3 Post-tests:
After the completion of the research sample for the training units prepared by the researcher, the post-tests were conducted for two days on 24/3/2022, on Thursday, and under the same conditions of the pre-tests.
3-7 Statistical Methods:
The statistical bag (SPSS) virgin:14 was used by the following statistical
Means: median. Mean. Standard deviation. Torsion coefficient ... Pearson's simple correlation coefficient. (t) test for correlated samples.
Chapter Three
3 - Presentation, analysis and discussion of the results of research variables
3-1 Presentation, analysis and discussion of the results of physical variables

Table (2) The mean, standard deviation, sum of differences, calculated value (T), real significance, level of significance for physical abilities, and achievement of the pre-and post-test.

level of significance	real significance	**value T**	**f**	**Pos-test**		**Pre-test**		**variables**
				s. deviation	mean	s. deviation	mean	
significance	0,00	6,00	0,12	0,02	1,97	0,04	1,85	start gong (م)jump

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significance	0,00	1,42	0,10	0,10	19,10	0,05	18,20	Run by 10 jump (m)
significance	0,01	6,75	0,75	0,07	26,60	0,11	27,35	200م run

3-2 Discussion of the results of the study variables:

It is clear from Table (2) that there are significant differences in the jump test of stability from the starting position of the research sample between the pre-and post-tests and in favour of the post-test, and the researcher attributes through the implementation of resistance exercises using additional weights had a positive impact on the development of the long jump of stability from the starting position significantly, which was sufficient to create muscular competencies to perform the required physical ability.

The researcher relied on organizing the units of special applied exercises for the research sample using jump training exercises have affected the development of muscle groups working in the movements of the tide and flexion on the joints related to these movements so that this can affect the time of contraction and muscle relaxation as little as possible, which ensures a decrease in the time of the push at the moment of the start, which It expresses the ability of the runners to exert the highest rates of explosive force, as well as led to an increase in explosive muscle power and rapid response to produce muscular ability according to the type of exercises used and gradually upgraded.

Some researchers believe that muscle fibres have the ability to produce great strength according to the type of exercise faced by those fibres, so these muscle fibres of working motor units will increase, and accordingly increase their ability to produce kinetic energy" (12:9) and this effect was seen in the development of the times of the stages of the race, whether at the start or after the start and during the stages of acceleration and to the end of the race, So "when we want to get the maximum strength of a movement, the good method to do this in the use of working muscles and under the best conditions" (81:10) So the researcher relied on the preparation of a training curriculum to develop this variable along with other important qualities, with take care the gradient in the difficulty of exercises to serve the motor activity.

The program adopted by the researcher in his research contributed mainly significantly to the development and raising the value of the achievement of the strength characteristic of the speed of the research sample and the application of these units on the research sample, which was adopted using jump training during training, which in turn sheds different stresses certainly work to increase resistance on the working muscles and as a result and every difference shown on the working muscles produces the adaptation to the required performance of the characteristic to be developed, It was consistent with the training of the research sample, as they need it greatly to ensure continuity in exerting force-speed and obtaining the suitable acceleration to obtain the regular speed during the rice stages of his track and has proven the possibility of developing the speed ability of short-distance racers as a result of developing their fast strength" (11:138).

Also, the development of the power characteristic of speed is also due to the development of explosive power through suitable special exercises with the conditions and requirements of the skill and accurate frequency, as "the process of overcoming resistance by performing a suitable movement and accomplished at the maximum speed or shortest possible time achieved in the service of explosive power and by recurrence it increased the effectiveness of the force characteristic of speed" (20:12), and the researcher believes that the force characteristic of speed is a set of several explosive forces where the special exercises had an impact on the development of rapid strength, as the exercises were applied during the training unit in a gradual manner, focusing on the individual abilities of each runner, which contributed to the absorption of runners into the training units and also helped to develop their physical condition.

It was shown from Table (2) and Figure (15) that there are significant differences in the test running (200) meters achievement of the research sample between the pre-tests \ and post-test to advantage the post-test, and the researcher attributes this progress in the exercises used by the researcher within the training curriculum of the research sample, which is jump training and diversity of these exercises, which aimed at developing special physical abilities, explosive power, speed by force And the

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maximum speed, which is needed by the runner of the (200) meters, and the improvement in physical abilities gave a positive indication indicated by the test results, which were aimed at obtaining the least time achieved by the runner in cutting the required distance, that one of the conditions for the occurrence of adaptation to the capabilities of effectiveness and resistance to extreme fatigue as "the use of high load to the maximum in order to secure the occurrence of fatigue, and extreme fatigue, which is a condition for the adaptation process, which in turn contributes to the rise in the level' (13:91).

Chapter IV

4 - Conclusions and Recommendations:

4.1 Conclusions:

1 - Training by training tools has had a significant impact on the development of special power through the results obtained. 2- Training by multiple training tools was an effective effect in the development of explosive power and was a positive impact in the start and start phase in the effectiveness of 200 meters.

4.2 Recommendations:

1 - The need for training by training tools and its adoption in the training curricula to develop the special physical abilities of short runs in various categories.

2- The need to conduct general physical tests for athletes from time to time to determine the physical level of the athlete.

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Sample of the training unit

Training Curriculum/ First week First Training Unit: Monday

intensity	performance	Rest/sets	sets	rest	frequency	The exercises	seq
%80	sec*15*	m*3*	*2*	sec*90*	*4*	Knee lift with wear Jump Trainer	*1*
	35sec	m*3*	*2*	sec*90*	*4*	Run by jumping a distance of 30 m with wearing Jump Trainer	*2*
	sec*20*	m*3*	*2*	sec*90*	*4*	The exchange of two legs (front and Jump back) with Trainer	*4*
	sec*8*	m*3*	*2*	sec*90*	*4*	Run 60m with wear Jump Trainer	*5*

(First week / second training unit / (Wednesday

intensity	performance	Rest/sets	sets	rest	frequency	The exercises	seq
%85	-	m*3*	*2*	sec*90*	*4*	Jumping from stability in the hole wearJump Trainer	*1*
	sec*15*	m*3*	*2*	sec*90*	*4*	Hit a man backwards with wearing Jump Trainer	*2*
	sec*8*	m*3*	*2*	sec*90*	*4*	Running 50m with wearingJump Trainer	*3*
	sec*10*	3m	*2*	sec*90*	*4*	Right partridge – left for 20m wearing Jump Trainer	*4*
	sec*10*	*3د*	*2*	*90ث*	*4*	*رفع ركبة لمسافة 20م ثم ركض 40م مع ارتداء* Jump Trainer	*5*

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