

# The Effect of Pressure Training Exercises in the Development of Special Endurance and Accomplish the 400m Run of Young Women

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## **ABSTRACT**

*The event of running 400 m is one of the events characterized by strength, speed, and endurance. Through these features, it was considered one a short sprint events that's relatively long. By observing the results of achievement levels in the Iraqi women's 400m run event, a clear weakness in the levels of achievement is found. Thus, the problem of research is formed, which directed to prepare exercises in the pressure training method to develop special endurance and achieve 400-meter for young women. The experiment is applied to (5) players of the women's team of the faculty of physical education and sciences sports for women. It has concluded that the training pressure exercises have positive effect in the development of special endurance variables and the achievement of 400 m.*

**Keywords:** *Pressure Training Exercises, Special Endurance, 400 m run*

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## **1- Introduction and Importance of Research**

### **1.1 Introduction:**

The science of sports training is an educational process subject to a set of scientific foundations and principles that mainly aims to prepare individuals also to achieve high levels of sports, furthermore able in a variety of sports activities. It is considered a modern science in the general field of knowledge

Training is a long-term process. Tolerate and rest can quickly become boring for the athlete. Successful coaches can plan training programs so it makes it diverse to arouse the interest of players and motivation. Change in training is always more beneficial than continuing on the same system. This change and diversity can come in things like changing the nature of exercises, the training environment, the dates of daily training, or the trainer can be more creative, as the focus was on developing training curricula that included using modern training methods to develop physical capabilities related to the type of activity.

The event of running 400 m is one of the events characterized by strength, speed, and endurance. Through these features, it was considered one a short sprint events that's relatively long.

The basic principle of this event is to maintain the rhythm character plus maintaining the length and frequency of the step until the end of the race. It is carried out by improving your endurance through intensive exercises to the improvement of special endurance and the achievement of 400 meters running for women.

### **1.2 Research Problem:**

Through the review of the results of achievement levels in the event of running a distance of 400 m in Iraq, it was perceived that a clear weakness in the levels of achievement is due to the fact that the effectiveness of 400 m is considered an Olympic Game that needs a lot of modern training plans based on scientific foundations and modern methods. There

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are many sports advanced due to the application of stress training from here the problem of research was formed. By applying the method of pressure training on the 400 m event by preparing exercises using this method furthermore to develop some solutions to build the training curriculum for the effectiveness of running 400 m.

### 1.3 Research Objectives

The following are the objectives of the research, they are:

1. preparing exercises by the method of pressure training developing endurance and accompaniment to the 400-meter running event.
2. identifying the effect of pressure exercises in the development of special endurance and accompaniment the 400-meter running event.

### 1.4 Research Hypotheses:

There are statistically significant differences between the pre and post tests of the research variables and the research sample.

### 2-Research Methodology:

#### 2.1 The Design of the Research

The experimental approach method is based on direct and realistic interaction with different circumstances and is based on two fundamental points which are observation and experiment of all types . (Assaf, 2002: 13) Thus, the experimental approach was adopted to fit the nature of the problem.

#### 2.2 Sample of the Research

The process of selecting a sample of the research is one of the main things that the researcher should pay attention to. Therefore, the sample was chosen deliberately and is chosen exclusively on the basis that it fulfills the purposes of the research.

It is selected the sample of the research is (5) female athletes from the College of Physical Education and Sports Science for women.

#### 2.3 Procedures of the Research

In order to determine special tolerance tests for the 400 m event. Accountable sources and similar research were reviewed plus the opinions of experts in training science and athletics were taken to survey their opinions on determining the tests for special endurance of the 400 m event. The tests are chosen from the agreement of 75% experts .table (1) is showed the percentage opinions of the experts . while the tests which are token below percentage are excluded from the final version of the tests.

Table (1)

The percentage of opinions of experts in the nomination and validity of tests

	Physical abilities	Tests	Percentage	Marks
1	Strength endurance on feet	1- Vertical jump test from stand.	% 60	×
		2- Legs' Bending and stretching for 45 second	%90	✓

2	Strength endurance	1-The test ran by jumping 100 meters	% 95	✓
		2-hop and jump for 60s	%65	×
3	Speed endurance	1- Running test for a of 300 m	%92	✓
		2- Running test for a of 600 m	%60	×

## 2.4 Research Tests

### 2.4.1 Legs' Bending and stretching for 45 second(Ahmed, 1999:366)

- The object of the test is measuring the strength of the legs' muscles.
- Performance description: The player stands in front of the referee and opening the legs while the arms are tangled behind the head. When the player hears the starting signal begins to bend and extend the legs fully.
- Registration: The player calculates the number of successful attempts to bend and extend the two legs' completely during 45 S.

### 2.4.2 Running by jumping 100 meters

- The object of the test is measuring the strength of the legs' muscles.
- Performance description: The runner stands on a certain line then begins to perform successive jumps between the right leg and left and on the combs for a distance of 100 m .

### 2.4.3 Running 400 m to measure achievement

- The object of the test is measuring achieved achievement
- Performance Description: The player takes the starting position of sitting on the field of 400 m and prepares with the absolute instruction and then goes off after hearing the launch signal.

## 2.5 Pilot test

The purpose of the pilot experiment was to:

- 1- identify the experiment ways:
- 2- identify the performance of training exercises and set exercise time, repetition and rest times.
- 3- identify the supplemental team for the conduct of the tests

## 2.5 pre-tests

The pre-tests were applied on the 27<sup>th</sup> of march,2019 on the scout camp in Baghdad on research sample

## 2.6 Training Exercises

After performing the pre tests, the proposal special pressure exercises are introduced within a training program dedicated to the research sample at the beginning of the main section of the training unit:

1. Exercises have been applied in the special preparation phase.
2. The duration of the trial was (6) weeks distributed on (18) training units at a rate of three units per week.
3. Intensity ranges from 80% - 90% (below the maximum).
4. Repetition per exercise: from 3 to 6
5. Groups: 2-3 groups.
6. Rest between reparation: 120-130 second (no full recovery)

## 2.7 Post Tests:

The researchers conducted the post tests on the research sample on 27th of May 2019 at 10:00 a.m. on the Scout stadium and under the same conditions as the researcher conducted pretests.

## 2.8 Statistical methods

The following statistical methods was used:

1. The mean.
2. Standard deviation.
3. Percentage.
4. T -test value for interconnected samples.

## 3. Result analysis

### 3.1 Display, Analyze, And Discuss the Results of Physical Tests

The mean, the standard deviation, and the calculated and tabulated (t) values of the research sample's endurance tests has shown in the table (2).

Table (2) The mean, the standard deviation, and the calculated and tabulated (t) values of the research sample's endurance tests.

Table (2)

	Test	Units	pre-test	post-test	t value	
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			mean	Standard deviation	mean	Standard deviation	calculated	tabulated	significance
1	leg bending and stretching for 45s	n.	25,80	3,51	37,66	7,02	2,91	2,78	significant
2	Ran by jumping 100 meters	second	26,24	4,32	25,08	4,91	3,14	2,78	Not significant
3	Running test for a of 300 m	second	59,15	9,84	58,46	8,77	2,88	2,78	significant

under the significance level is 0.05 and the degree of freedom 4

Table 2 displays the means, standard deviations, and the calculated (T) values of the endurance tests for the research sample has shown that the calculated T -test values appeared respectively for the tests (the feet force, the endurance of speed), which is (2,91, 3,14, 2,88) which is larger than the tabulated. This means that the significance difference is because by the researcher to the significance difference to the pressure training executed by the researcher in her experiment. Thus, it is performed in a variety of terms of exercise, which is very similar to the competition. It is characterized by repetitions, rest times and groups, Since the use of pressure training exercises was among the scientific foundations in terms of rationing the intensity of exercises as well as breaks between repetitions and groups which enables the player to perform additional repetitions with the same efficiency and speed as well as coordinated and continuous training has given positive results for developing the training . This is matched with Bastweissi (1999) that the need to develop the endurance from the first years of training as it is a physical -physiological characteristic takes a long time to develop to delay the phenomenon of fatigue, which negatively affects the form of motor performance). Performance-endurance exercises one of the essential foundations of fitness also they are largely associated with the functionality of the body organs and the endurance of fatigue throughout the duration of the competition. the researchers believe that the exercises pressure training and appropriate used to organize components of the training load so that the exercises performed with maximal intensity or semi-maximal in other aspects and with fewer repetitions and high-performance speed, which increased the activity and effectiveness of the enzymes responsible for energy production.

#### 4.conclution and recommendation

##### 4.1 conclusions

- 1- The pressure training exercises have a positive effect of the legs' strength tests, the bearing strength, and the speed endurance of the research sample.

- 2- The pressure training exercises has an positive effect in developing the achievement of 400 m for the research sample.
- 3- Pressure training exercises based on correct scientific foundations contributed to achieving the best possible results which is shown by the statistical significant of post tests.

#### **4.2 Recommendations**

- 1- The necessity of applying pressure exercises to other activities in track-and-field sports
- 2- Adopting the synopsis of the pressure exercises and popularization them among the coaches to benefit as much as possible.
- 3- Approving alternative exercises for the same effectiveness of 400 m and comparing their results with the results of training.

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