



## Effect of Special Exercises in the Development of Special Endurance (Endurance Strength and Speed Endurance) for the Effectiveness of Running 400 Meters Class (CP 36)

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### Abstract

The sport of the disabled is one of the most important sports that have witnessed remarkable development in recent years, especially after the London Paralympic Games 2012, especially on athletics. In view of the close relationship between modern training theories and its practical, scientific and training aspects to achieve the best levels, Athletes in category (CP 36) The researcher noted the lack of interest in this category of training, which depends on the scientific basis in terms of physical tests that fit the possibilities and capabilities of the category (CP 36).

Where the objectives of the research were determined:

- Prepare special exercises in the development of your endurance.
- Identify the impact of special exercises in developing the endurance force for an effective 400 meters.
- Identify the effect of special exercises in the development of endurance speed for the effectiveness of 400 meters for class (CP 36).

### Research Hypotheses

There were statistically significant differences between the pre and posttests of the two experimental groups in carrying power for the effectiveness of running 400 meters.

There were statistically significant differences between the post-test of the two experimental groups in carrying the speed of running 400 meters for the class (CP36).

The researcher used the experimental approach to suit the nature of the research with two equal groups.

The research community was selected from the elite players (ages 18-23) category (CP 36) with a running efficiency of 400 m. The number of players (10) was divided into two experimental groups randomly and with (5) players for each group.

The Researcher Concluded

- The special exercises showed a clear development in the endurance of disabled players in the category of CP 36)
- The wide development was the result of the prevailing quality of the effectiveness of the speed of 400 meters.

**Keywords:** *Special exercises, Special endurance, Endurance strength and speed endurance.*

### Introduction

The sport of the handicapped is a sport that has witnessed a remarkable development in recent years, especially after the London Olympics 2012 and on all levels, especially athletics, and because of the close relationship between the modern training theories and its practical aspects and the training process to achieve the best achievement levels. It is necessary for the

operators of the training process to provide assistance and continuation of the players aim to achieve and improve their physical levels to bear the burdens and duties of private sports training, and since the effectiveness of 400 meters deal with physical variables to overcome the manifestations of central fatigue and terminal and muscle groups of the disabled in the performance of

the training module, to the difficulty of continuing the work of muscle with the same efficiency at the beginning of the training module, and that this effectiveness depends directly on the physical capabilities of the effectiveness [1].

Achieving advanced levels of 400 meters for disabled athletes (CP 36) requires a great deal of attention and training, as this effectiveness is directly affected by my ability to withstand strength because it requires a great physical and physical effort in training and competition, Physical changes of the working muscles, and hence the problem of research lack of interest in this category in terms of training based on scientific basis in terms of physical tests commensurate with the potential and capabilities of the category (CP 36).

(Endurance speed - endurance power) Based on the advanced lies the importance of research in knowing the effect of special drills in the development of your endurance for the effectiveness of running 400 meters for the class (CP36) [2].

### Research Objectives

- Preparing special training in the development of special endurance
- To identify the impact of special exercises in the development of carrying power to the effectiveness of 400 meters.
- Recognition of the effect of special exercises in the development of speed endurance for the effectiveness of 400 meters for the class CP36).

### Research Hypotheses

- There are significant differences of statistical significance between the tests of pretest and posttests of the two experimental groups in the carrying power of the effectiveness of running 400 meters.
- There were statistically significant differences between the post-test of the two experimental groups in carrying the speed of running 400 meters for the class (CP36).

### Research Methodology and Field Procedures

#### Research Methodology

The researcher used the experimental method to suit the nature of the research by designing the two equal groups

### Search Community and Samples

The research community was selected from the elite players (ages 18-23) category (CP 36) effectively ran 400 meters and the number of (10) players and then divided the community into two experimental groups randomly and the (5) players for each group.

### Devices, Tools and Auxiliary Devices

- Arab and foreign sources.
- Stop sports.
- A medical device to measure the weight.
- Phosphoric markers function.
- Adhesive tape.
- Electronic Scientific Calculator Type of Dell.
- Whistle referee.
- Low terraces and barriers.
- Weight endurance weights.

### Tests Used in Research

#### Speed Endurance Test (300 Meters) [3]

Test Objective: Measure the special speed endurance for a distance of 300 meters from the high start.

Test instruments: Field running legal length of not less than 400 meter and the beginning of a distance of 300 meter, stopwatch, and whistle.

#### Test Description

The laboratory stands behind the starting line of the stand position and takes the standby mode and when the whistle of the absolute is heard, it starts as quickly as possible to cut the distance and reach the finish line.

#### Registration

Registration for the time taken to cut the distance of 300 meters, 100/1 seconds.

#### Strength Endurance Test (Sitting Test from Lying Down to Very Tired):[4]

##### Objective of the Test

Measure the strength of the strength of the muscles of the abdomen and back.

#### Performance Description

Each member of the sample of the study of lying on the back rounded the trunk and

pushes the two legs and arms and touch until the fatigue.

## Registration

The members of the work team assistant record the number of exercises for the abdomen from the lying position for each member of the research sample and even fatigue and stop performance.

## Steps to Conduct Field Research

Conducting the exploratory experiment: The pilot experiment was carried out on players from the sample to verify the following requirements:

- Ensure the ability of the sample to perform tests
- Ensure the validity of tools and devices to carry out tests
- Ensure the ability of the sample to carry out the exercise and the time it takes to implement
- Ensure the ability of the team to implement the requirements of the experiment

## Pretests

Pretests were conducted on the research sample, which included all physical and functional tests and achievement for the days 2018/1/1 at 3:00 pm.

## Training Program

The proposed training curriculum was prepared based on scientific sources, experts

and trainers with precise competence in the field of sport training. The classifications of the two speed classes were adopted and consisted of a group of exercises for the race distance and less than 400 meters.

A combination of weight and weight training exercises were performed using the repetitive and repetitive training method during the training modules, taking into consideration the specificity of the cp36 class. Note that the training was at the rate of (3) training units during the week and for a period of (2) months and a half. Starting from 2018/1/1 until 2018/3/15.

## Posttests

Post-tests were carried out after the direct completion of the curriculum and the training program for the research sample on 2018/3/15 and in the same sequence of pretests. The researcher took into account the spatial and temporal conditions for the tests to be as similar as possible to pretests.

## Results and Discussions

### View, Analyze, and Discuss Results

### View, Analyze and Discuss the Results of Pretest and Posttests of the Physical Research Sample

Presentation of the results of the test of sitting from lying down to the extreme fatigue of the pretests and posttests of the sample of research and analysis and discussion:

**Table 1: Shows the difference in the mean and standard deviations and the calculated and tabular value of (t) and the significance of the differences between the results of the pre and posttests in the speed endurance test of the experimental groups**

Groups	Pretest/mean n	Posttest/mean n	Total differences	Average differences	Differences of deviation	(t)value		Type of significance
						Calculated	Tabulated	
A group endurance speed	49.82	47.95	14.88	1.488	0.368	4.043	2.39	Sig.
A group strength endurance	60.58	49.18	9.71	0.971	0.281	3.443	2.39	Sig.

As shown in Table (1), the calculation of the arithmetic computation of the velocity range in the pretests and posttests, respectively (49.62 and 47.95), was found to be the value of the arithmetic range in the pretests and posttests tests respectively (50.58, 49.81), Which showed significant differences in the computational relations between the pretests

and posttests at the degree of freedom (4) and for the benefit of the posttests through the value of (t) calculated compared with the (t) tabular. The speed endurance group (4.043) is larger than the scale of (2.39). As for the group carrying the force, the value of (t) calculated (3.443) is greater than the tabular and through what was presented and

analyzed in table (1) it is clear that there are significant differences and for the benefit of posttests. It was a level of development in the special speed endurance level of the test (300 meters).

The researcher attributed that this stems from the impact of the training methods used in the training and the fundamental reason for the development of the level of the speed-endurance group, which is trained in the method of repetition, which is the effectiveness of the program used and comprehensive in the privacy of exercise, "The use of comprehensive training directed is a positive phase of muscular adjustment.

To avoid the level of falling speed and rate during training and competition".[5] The power endurance group was also good and had a positive effect on the rate of development of the special endurance of the working muscles, especially the circulation device and lead to raise the level of pneumatic capabilities with a high degree of efficiency in performance, which works to achieve a similar achievement or approximation to bear speed [6].

### Presentation of the Results of the Test of Sitting from Lying Down to the Extreme Fatigue of the Pretest and Posttests Tests of the Sample of Research and Analysis and Discussion

**Table 2: The results of the sitting from lying down test indicate lying down to the extreme fatigue of the pretest and posttests tests of the research sample**

Groups	Pretest/mean	Posttest/mean	Total differences	Average differences	Differences of deviation	(t)value		Type of significance
						Calculated	Tabulated	
A group endurance speed	24.6	34.2	48	9.6	1.303	7.38	2.39	Sig.
A group strength endurance	25.8	36.2	52	10.4	1.30	8	2.39	Sig.

Table (2) shows the differences in the arithmetic range of the speed endurance group, respectively (24.6 - 34.2) and the force holding group, respectively (25.8 - 36.2), which necessitates significant differences between the circles of the experimental groups to choose the strength of the abdomen, It gives a positive and accurate indicator for the development of the level of endurance of the muscle groups working in an integrated manner, as the second group, which trains the special endurance, "endurance power" came in the first place is based on the method of training the backbone of various intensity in development and development and raise the efficiency of internal organs in the production of energy and development of physical and functional abilities [7].

The researcher believes that the development of this group in the capacity to bear the strength of these muscles resulted from the development in the level of endurance and strength method used method that developed the level of muscular adaptability nervous as a pillar to resist muscle fatigue, which led to the development of other elements of fitness. And that the provision of appropriate rest

periods with increasing the proportion of lactic acid in the preparation and competition increases the capacity of the muscles and provide the energy needed to perform a high-intensity effort, and increase the capacity of anaerobic biomaterials through the development of adaptation rather than response alone [8].

### Conclusions

- The pregnancy training (endurance speed - endurance power) showed a clear development for disabled players in the category (CP36)
- The clear evolution was derived from the prevailing character of the effectiveness and bears the speed dominating the effectiveness of 400 meters.
- The use of strength training exercises in the form of training of the various types of intensity increased the development of the endurance of power for disabled athletes.
- The use of high intensity training to increase the capacity and physical fitness within the competition and special preparation of the runners class (CP36) in the effectiveness of 400 meters.

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