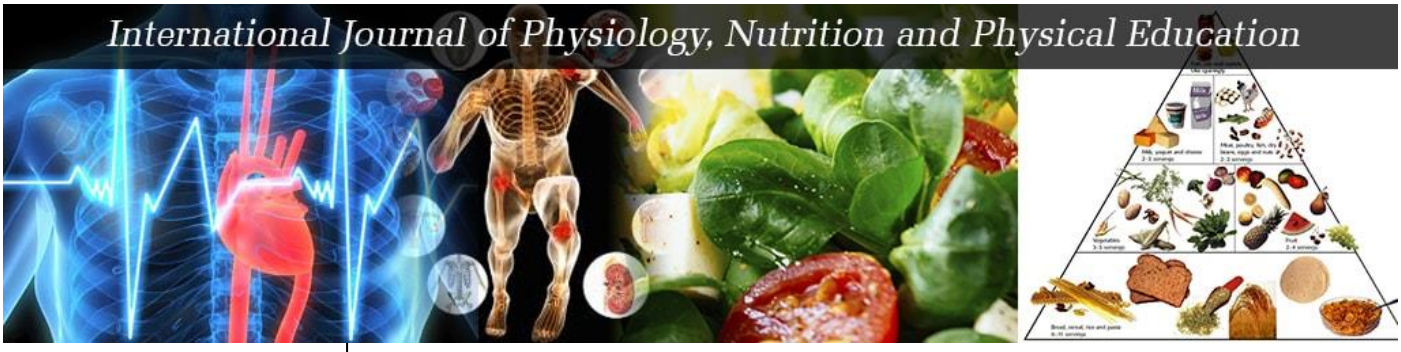

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The effect of a training program accompanying the supplement of creatine phosphate in improving the strength characteristic of speed and the achievement of a 200-meter run for young men

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Abstract
The aim of the research is to prepare a training program accompanying the supplement of creatine phosphate in improving the strength characteristic of speed and the achievement of a 200-meter run for young men, to identify the effect of the training program accompanying the supplement of creatine phosphate in improving the strength characteristic of speed and the achievement of a 200-meter run for young people, the researcher used the experimental approach in a controlled manner (experimental + control) for its suitability and the nature of solving the research problem. The research sample consisted of (8) runners from the youth 200m running event, representing the Specialized School of Athletics in the Ministry of Youth and Sports, and they were chosen by the intentional method, as they were divided randomly. They were distributed into two groups by random drawing 4 Runners represented the experimental group that used high-intensity exercises in terms of creatine phosphate compound, while 4 runners represented the control group that followed the approach prepared by the trainer, where physiological and physical tests were conducted, including measurements and tests for the enzyme (CPK) in the blood, the jogging test (Bauzing) (10) distance steps (stability), a running test (200) m achievement, where the researcher reached the following results, that the results of the physical variables test were in favor of the post tests and the experimental group achieved preference, which indicates that the training program accompanying the creatine phosphate supplement that Used by the experimental group, it gave a clear effect in improving the strength distinguished by speed and the completion of the (200m) run, as the main goal of taking these nutritional supplements is to achieve achievement in the specialized activity. Creatine phosphate compound is the best type of loading in high-intensity events. For a short period of time, the use of creatine phosphate compound led to stimulation and increased concentration of the enzyme creatine phosphokinase (CPK), as it is one of the main factors in perpetuating the biochemical reactions to rebuild (ATP) in the muscles and blood. Thus, the intensity can be increased in the training work.

Keywords: Training program, accompanying, supplement, creatine phosphate and strength

Introduction
Athletics is one of the sports events that have received great attention in the field of research and studies, which helped to achieve many developments in training methods and methods, and to improve the numbers recorded in those competitions at the various international levels**.**
Among the most exciting and exciting athletics activities for the public are the fast-running activities, which are characterized by intense competition and short performance time, which sometimes makes it difficult for the viewer to know the positions of the winners except through high-speed imaging devices to determine these centers. Among these activities is the (200 m) running event, which has a special The athlete runs in it the first half in the form of an arc and the other half in the form of a straight line, and the variables that occur during the arc run on the body of the runner play a major role in the achievement, and some reports indicated that many runners tried to increase the percentage of creatine phosphate before important competitions and tournaments by loading this compound on By taking metered doses,

especially for short-distance runners, for the purpose of improving their level of performance, so the use of some special nutritional supplements with the aim of bringing the functional apparatus of the athlete to a state of adaptation, in order to perform and bear the burden of effort to achieve the best achievement, because the conditions of this effectiveness require performance quickly and with relatively high intensity, as well From the foregoing, and it is known that the main source of energy production in the phosphagenic system is creatine phosphate (CP).

Therefore, the importance of the research lies in the effect of a training program accompanying the supplement of creatine phosphate in improving the strength characteristic of speed and the achievement of a 200-meter run for young men.

Research problem

The difficulty of breaking the Iraqi record in running the (200 m) for a long period of time, and the distance of the Iraqi record from the world number despite the development of many solutions, as it is a realistic problem that our runners suffer from, and perhaps one of these reasons is the lack of training curricula that are codified according to programs Special food for the type of sports event, so food supplements play an important role in the life of the athlete in general and athletics runners in particular because they contain the basic elements, as the main goal of taking these supplements is to provide the body with sufficient energy for the purpose of continuing to perform the specialized activity, whether during training or competitions And that the systematic use of these supplements in different training conditions in terms of the volume and intensity of training and under the conditions of matches or competitions gives the athlete vitality and activity and works to pave the way to reach high sports results. Through the modest experience of the researcher being one of the workers in this field, the researcher noticed the athletes' lack of interest in nutritional supplements and their types. Likewise, the athlete's lack of knowledge of the energy system that controls the special sports event, and also there is another problem, which is how to use nutritional supplements, so the researcher decided to study the effect of a training program Accompanying creatine phosphate supplement in improving the strength of speed and the achievement of 200-meter running for youth

Research Aims

1. Preparing a training program accompanying the supplement of creatine phosphate in improving the strength characteristic of speed and the completion of a 200-meter run for young men.
2. To identify the effect of the training program accompanying the supplement of creatine phosphate in improving the strength characteristic of speed and the achievement of a 200-meter run for young men.

Hypothesis

There are statistically significant differences between the pre and post-tests in the training program accompanying the supplement of creatine phosphate in improving the strength characteristic of speed and the completion of the 200-meter run for young men.

Research methodology

The researcher used the experimental method in a tight control style (experimental + control) for its suitability and the nature of solving the research problem, as this approach is one of the most accurate, best and most efficient types of approaches in reaching accurate results.

The research sample

The research sample consisted of (8) runners from the youth 200m running event, representing the Specialized School for Athletics in the Ministry of Youth and Sports. They were chosen by the intentional method, as they were divided randomly. They were distributed into two groups by means of a random lottery. 4 runners represented the experimental group that used a training program accompanying creatine phosphate supplement, while 4 runners represented the control group that followed the curriculum prepared by the trainer.

Equipment, tools and means used in the research

- Centrifuge (centrifuge) German origin.
- A water bath of German origin.
- A measuring device for any type of analysis (S-pnotometer) of English origin.
- Injection (syringes) to draw blood number (10).
- Plan tubes free of EDTA, an anticoagulant.
- Cooler case.
- Kits that determine the level of CPK concentration in the blood, of French origin, Randox.
- Creatine phosphate compound.
- A firing pistol.
- Team work.
- Arabic and foreign sources and references.
- Personal interviews.
- Field visits.
- Testing and measurement.
- Measuring tape: To measure length and distances.

Tests

1. Measurements and tests for the CPK enzyme in the blood

The aim of the test: To measure the level of CPK enzyme concentration in the blood before the exercise**.**

Equipment's

- 10 syringes for drawing blood.
- An incubator to save blood and speed up the clotting process.
- Centrifuge.
- Tubes for preserving blood, free from the (EDTA) anticoagulant.
- Medical cotton, sterile materials.
- Water bath.
- Cooler case.
- Lactate to determine the level of CPK enzyme concentration in the blood, of French origin, Randox.
- Laboratory assistant work team.

Performance method

A. Laboratory procedures

Special tests were carried out to measure the concentration of the enzyme (CPK) in the blood by drawing blood in the laboratory of the Baghdad Health Department, Al-Karkh / Al-Karama Hospital. All medical analyzes were taken to ensure the safety of the functional devices of the runners and to avoid problems before starting the main experiment. The enzyme in the blood is the best indicator for measuring the percentage of creatine phosphate compound in the blood. This test applies to one stage, which is before the effort. Then blood is drawn

from the members of the research sample in the morning and before performing any effort (in the state of rest) by calling the runner so he sits on the private bed and extends one of his arms and the bandage wraps the bandage in the humerus area so that the blood is confined to the brachial vein then the bandage sterilizes a small area of the vein and instills The syringe is inserted into the vein (the elbow area) and begins to draw blood at an amount of (5) cc, which is a sufficient amount according to the indication indicated by the instructions contained in the book. The blood tubes are collected for each individual and placed in the incubator at a temperature of 37 degrees Celsius to speed up the blood coagulation process for a period of (5-7) minutes, after which they are taken out of the incubator and placed in the centrifuge in an opposite manner, meaning each tube is matched by another tube. This is for the purpose of separating the serum from the blood, then the device rotates at a speed of 300 cycles/minute for a period of 5 minutes (651:1). After the period ends and the serum separates from the blood, the yellow serum is withdrawn and emptied into a new tube on which the runner's name is written before and after the effort.

After conducting the food process within the training program for a month and a half, the physical and functional tests are repeated, including the analysis of the enzyme (CPK) for each runner and within (30) minutes after the completion of the tests, as the enzyme concentration is very high during this period (275:2) after that. The same blood withdrawal procedures are repeated before the effort, and placed in tubes on which the name of the runner is written. All tubes are preserved and the same analysis operations are performed on them.

The dissolved reagent solution of (0.5) cc is placed with (0.5) cc of the sample taken out together and placed in a water bath for (3) minutes at a temperature of 37 °C. After that, one of the test bottles containing the serum (serum) is taken and withdrawn from it. by (0.5) cc and comes out with the dissolved solution and the model, and all of them are placed in the water bath again for 10 minutes and under a temperature of 37 degrees Celsius, after that the standard solution is placed in the spectrophotometer until the reading of the device reaches a wavelength of 560 nanometers, and a reading appears On the screen, the device stops reading automatically, and this reading is recorded, then the three mixed materials are taken and placed in the device, and the device begins to read. When it reaches a wavelength of 560 nm, the device stops reading automatically. When the reading appears on the electronic screen, the following equation is applied to it:

$$\text{Phosphokinase concentration} = \frac{\text{blended materials}}{\text{Read the standard solution}} \text{X concentration of the standard solution}$$

2. Bauzing test (10) distance steps (and stability)

The aim of the test

To measure the strength characteristic of the speed of the muscles of the two legs (run by jumping 10 steps time + distance)

Equipment's

- Registration Form.
- Adhesive tapes.
- Stopwatch (2).

Performance method

The runner stands on the line (40) m and starts running by jumping. At the first step the runner takes, the timer starts timing. When the runner reaches ten steps, the timer gives the (UP) signal, and the assistant starts measuring the distance traveled.

Each runner performs this test individually and not all runners perform it at the same time. Then adhesive tapes are placed between a distances of (35-40) meters, that is, every half meter.

Scientific conditions: Each runner is given only one attempt.

Recording method

Measuring the distance traveled by the runner and the time during the test.

3. Run test (200 m) completion

The aim of the test

To measure the achievement of the (200) m runners

Equipment's

- A firing pistol.
- Stopwatch number (2).

Performance method: The runner stands on the starting line (200) m. When he hears the word "on the line" from the shooter, the runner sits on the line and stands firm. When he hears the word "bring," he raises his arm slightly to the top, almost above the shoulders, and stands still. When the shooter releases, all runners start running at full speed. To the end of the racing line.

Scientific conditions

Each runner is given only one attempt (successful attempt).

Recording method

The time taken by the runner during (200) meters is calculated.

Pre-tests

The pre-tests for the control and experimental groups were conducted at the stadium of the Ministry of Youth and Sports, and the researcher sought to write down the conditions related to all the tests in terms of time, place, equipment, and the method of implementing the test to try to create the same or similar conditions when conducting the post-tests.

As (3) tests were conducted on the first day.

Running (Bauzing) test (10) distance steps (and steadiness)

- Achievement test 200 m
- Testing the concentration of phosphokinase (C.P.K) enzyme.

Creatine Phosphate (CP) Nutrition Program:

The researcher prepared a nutritional program of creatine phosphate (CP) for a month and a half for three days a week (Saturday, Monday, Wednesday) according to the following:

The principle of regular dose: This principle is based on taking a regular dose through the researcher's access to some sources and taking the opinions of specialists, as he specified (20 gm) per day for each player, as the division is as follows (5 gm) in the morning and (5 gm) before and after exercise (5

gm) at night.
It will be (20 gm) every day, i.e. (3) days a week
20 x 3 = 60 grams per week
60 x 8 = 480 gm for each runner, the amount of phosphocreatine ingested for each runner during the trial period.

Training curriculum
The golden rule for any training curriculum is specialization, and this means that the movement that the player performs in training must be unified as close as possible to the movements that are performed during competitions, and since (high-intensity) training is "a highly focused activity that requires a high amount of Dealing with the nervous system. (20:4).
And because the degree of maturity and the degree of experience for young people represent the two sides of the problem in this type of training, so the researcher must take into consideration when developing the high-intensity training curriculum the following factors:

First
The training must be performed after a suitable warm-up, which includes low-effort exercises, and a short relaxation period for the main muscle group. High-intensity warm-up exercises include running at full speed, and then changing direction. High-intensity exercises must be performed in sequence. From the easiest and low pressure to the most difficult and high pressure and basically there are three levels of exercises are:

The first stage
(Low collision) exercises that are performed with the feet or arms (bilaterally), and they are similar to most of the exercises that children perform, such as high jumping with the legs, jumping with the legs a distance forward, lateral jumping with the legs, high rapid push, and jumping up with applause**.**

The second stage
(Moderate collision) - exercises that are usually performed with one leg or one arm (unidirectional), and they use effort before extension, such as jumping on one leg up, jumping on one leg for a certain distance, jumping on one leg for a distance, standing Then triple jump, pull, push**.**

The third stage
(High impact) - Exercises that are characterized by high effort before extension, such as jumping with one leg over an obstacle, jumping over an obstacle and landing (deep jump)**.**
Where the training curriculum consisted of (24) training units per month, i.e. (36) training units during the prepared curriculum, at the rate of (6) training units per week, except for Thursday, and some training units were performed in the morning from (7) until (9) or in the afternoon from (5) to (7).
The researcher relied on everything related to the contents of preparing the training curricula during the training units of the training curriculum, whose vocabulary was appropriate to the subject of the research and within the privacy of the sample members, as the researcher took into account the method of reinforcement through the principle (convincing the athlete of the importance of future performance). We must know here that young people are characterized by insufficient experience The correct training principles. He also used the principle of immediate feedback and error correction to benefit from the time allotted for training. And I relied on the principle of rippling in the field of training in the training units through the formulation of the research methodology, as intensity, volume and comfort were dealt with. (Abu Al-Ola) mentions the principle of ripple that the approach leads to better results, and the ripple means the rise and fall in training and not to walk at one pace or one level. (202:5) i.e., the vocabulary of the training unit at the beginning of the training curriculum and the gradient in the training ratio compared to the decrease in intensity and the proportionality of comfort with the training body and the gradient in the ratio of the volume of training to the intensity as it is noted that the intensity of training increases compared to the weight that falls at the end of the training curriculum.

Post-tests
Post-tests and measurements were conducted on the research sample after completing the implementation of the nutritional training program in the same manner in which the tests and pre-measurements were conducted.

Statistical means
The statistical system (SPSS) was used.

Table 1: Show SPSS for Control Group and Experimental Group

Groups	Tests	Mean	Std	Skewness	T value
Control Group	Test #No 1	5.37	1.874	0.309	16.42
	Test #No 2	3.17	1.982	0.428	9.28
	Test #No 3	4.05	1.933	0.211	11.13
Experimental Group	Test #No 1	8.41	1.281	0.907	22.68
	Test #No 2	7.66	1.322	0.967	17.53
	Test #No 3	9.18	1.095	0.953	19.22

The researcher attributes the reason for this to the training program accompanying the supplement of creatine phosphate, which was taken by the members of the experimental group. Building ATP, which gives vital energy to the runner during a short physical effort. According to the researcher, it is a natural product because the increase in enzyme activity is proportional to the increase in the CP complex in the muscle. This indicates that nutritional supplements are of high benefit in increasing anaerobic energy release, and this is what works with more world champions in this event. (16:9) And the increase in the efficiency of the body's production of (ATP) for the dominant system with an effort of (2-4) seconds, and this indicates that the loading system with a regular dose developed the (ATP) stock in the muscle, and this stock directly affected the increase in the production of vital energy needed to perform Continuous physical effort during the jogging test (Bauzing) (10) distance steps (and steadfastness)) through the representation of creatine for the experimental group, which worked to increase the stock (CP-ATP) in the muscle and body, a greater percentage than the members of the control group, and this is what the test results came from Which came in line with the speed exercises that were applied to both groups, with a preference for the experimental group in improving muscular work with the production of suitable

energy to cause rapid muscle contraction consistent with the ability to load the compound (CP) as well as the functional (biochemical) development that aims to develop power system. (78:6).

Ahmed Naji mentions, quoting from (Snamper), that the development of the muscles of the two legs leads to an increase in the speed of their movement during running, and that the increase in strength in the upper part of the body makes the arms move quickly, which leads to an increase in the speed of running. (8: 7).

The researcher attributes the reason for this to the fact that the nutritional training program gave a clear effect in improving achievement by covering the distance in the shortest possible time, given that the 200-meter race is one of the sprint races that depend on the anaerobic system using a compound (CP-ATP) and that increasing this compound works to increase Its stock in the muscle and thus increasing the concentration of the (CPK) enzyme, which is one of the main catalysts for liberating phosphate (P) from the (CP) compound, which came through the nutritional training program in terms of creatine phosphate that the researcher followed. The energy required for the muscle to rebuild the ATP as well as the main goal of the training which is to reach the athlete to make the maximum effort to achieve the maximum speed in this distance and according to the researcher's opinion, the result showed an area around the significance of the differences and in favor of the post-test for the sample, especially the experimental, as the athletes work to increase the percentage of the compound CP, especially before competitions, by loading this compound through metered doses (as the researcher did) for the purpose of benefiting from the energy produced and working to cover the race distance as effectively (200,400) meters in the least possible time. (72:8) And that the reason for the emergence of significant results between the experimental and control samples in all tests is the level of development that the experimental sample had, as it enjoyed a higher level of strength training distinguished by speed, in addition to the use of nutritional compounds that contributed to the level of muscle contraction, as it had a clear effect In the development of the maximum speed, which was reflected in the development of the functional components of the muscle, as the researcher believes that the intake of creatine phosphate in regular doses improves the level of activity of the enzyme (CPK), which is reflected in the possibility of supplying the muscle with a more or higher level of ATP compound, which contributes to the continuation of sports activity. This is the possibility of rapid muscle contraction, as the results of a partial analysis of one triphosphate inosine phosphate lead to the release of energy that causes three or two systolic movements, but the conversion of the creatine phosphate compound to its basic elements leads to the continuation of the anaerobic muscle effort for a period of (20-30) seconds (284:10) What happens from the individual's ability to control external resistance by means of nerves and the stability of chemicals in the muscle (324:11) and as a result a high level of performance of the muscle fiber, and thus we will see that the ability of the athlete who gets creatine phosphate compounds presented an achievement based on mobilization The largest number of muscle fibers to produce the force that contributes to achieving the time achievement.

In addition to what was mentioned, the level of morale also came as a result of the use of the nutritional training program and the activity of the CPK enzyme activity, which increases in the muscle cell, which increases the level of the enzyme in the serum, especially when energy is needed and when performing physical effort. to the fact that the level of the enzyme in the muscle cell and serum increases after physical effort due to the catabolism that occurs in the cells as a result of high-intensity effort, as the CPK enzyme helps in the formation of creatine phosphate complex to be ready to form ATP when needed, especially during physical effort. (71:12)

Results

1. The results of the physical variables test were in favor of the post tests, and the experimental group achieved preference, which indicates that the training program accompanying the creatine phosphate supplement used by the experimental group gave a clear effect in improving the strength characteristic of speed and the achievement of the (200 m) run, as the main goal Whoever takes these nutritional supplements is achieving achievement in specialized effectiveness.
2. The creatine phosphate compound is the best type of loading in high-intensity events and for a short period of time.
3. The use of creatine phosphate compound led to stimulation and increased concentration of creatine phosphokinase (CPK) enzyme, being one of the main factors in sustaining biochemical reactions to rebuild (ATP) in muscles and blood, as they work to cause a state of rapid recovery in the return of functional organs to their normal state and thus the intensity can be increased in the training work.

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