

The effect of CrossFit training in developing the special strength of table tennis players

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Abstract:

The sport of table tennis has a training characteristic like other sports as it depends on the development of the special physical variables represented by explosive ability and characteristic of speed, and work to develop these variables in order to improve the achievement within this event. It is the focus on developing some physical abilities represented by explosive ability characterized by speed, and for this reason the researcher decided to enter into this problem through preparing CrossFit exercises that work to develop the special strength of young boxers, and the goal of the research is to prepare Cross Fit exercises, and to identify the extent of the effect of prepared exercises In the CrossFit method to develop the special strength of young boxers, as for the research hypotheses, there are statistically significant differences between the pre and post- tests of special strength among the members of the research sample for the experimental group and in favor of the post test, there are statistically significant differences between the pre and post- tests of the special strength of the members of the research sample of the control group and in favor of Post-test, there are statistically significant differences b The dimensional tests of the special strength of the two research groups are in favor of the experimental group. The researcher used the experimental approach designed by the control and experimental groups, and the research sample included the players of Anbar Club and Kateen Table tennis Club, which numbered (16) boxers, who were divided equally into two control and experimental groups, and then the researcher conducted exploratory experiments on the research sample to find out the negatives that may accompany the main experiment Then, field procedures for research were started, including pre-tests, implementing assistive exercises and conducting post-tests, and after extracting the results, they were statistically processed for the purpose of analyzing and discussing them.

Keywords: *Cross Fit Drills - explosive ability - force with speed.*

I. Introduction

Countries began to pay attention to sports because of the scientific progress it achieved in the formation of society and generations, whether in terms of physical, mental, psychological or social. The levels in international forums that draw the civilization of those participating countries, one of the games that has attracted interest in terms of its representation in continental, international and Olympic competitions is table tennis, as it had a distinguished

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position among the events in achieving the results achieved by the players as this event is one of the activities that need a high level One of the physical capabilities, especially muscle strength, because it is a factor in the president and the basis of performance, which has prompted many specialists to develop forms of strength and physical capabilities are among the basic requirements and important abilities that have an effective impact in the development of various sports

The importance of the research lies in showing the significance of the impact of CrossFit exercises in developing the special strength of young players. Table tennis is one of the games whose players are characterized by special physical capabilities and abilities, in order to achieve high and advanced performance levels, and since table tennis is characterized by dynamic action characterized by explosive ability and ability Distinguished by speed as well as other abilities and through the researcher's field experience in the field of table tennis and his follow-up to many local tournaments, he noticed the lack of use of most coaches for this training method, which works to develop the special strength represented by the explosive ability and the distinctive ability of speed in preparing players for tournaments, which negatively affected their performance During the influx, hence the research problem, so the researcher decided to enter into this problem and address it through the use of special exercises in the CrossFit style in the development of special strength for young players and work to develop physical fitness in general and special strength players, and the objectives of the research are to prepare special CrossFit exercises in Developing the special strength of young players, knowing the effect of special exercises for BA The CrossFit approach in developing the special strength of the young players. As for the research hypotheses, there are statistically significant differences between the pre and post- tests of the special strength of the members of the research sample for the experimental group and in favor of the post test. For the control group and in favor of the post test, there are statistically significant differences between the dimensional tests of the special strength of the two research groups and in favor of the experimental group.

II. Research Procedures:

2-1 Research Methodology:

The researcher used the experimental method

2-2 Research Sample:

(16) players were selected and they were divided into two groups, each group of (8) players were chosen by deliberate method in order to implement and achieve the objectives of the research.

Field procedures for research

The field procedures for the research included preparing CrossFit exercises and inserting them within the main section of the training unit in order to develop explosive power and force characterized by velocity, then the researcher conducted tribal tests for the sample members on 3/21/2019.

Training curriculum

Special exercises were prepared in the CrossFit style within the training curriculum for the research, as the curriculum consists of (36) training units at a rate of (3) training units per week for a period of (12) weeks. The principle of gradual training in the training load in the training units in formulating the curriculum within the main section of the training unit, and during the training the researcher adopted the flow of training work and dealt with intensity, comfort and volume through the application of gradation in pregnancy within the general preparation period and the objectives of the training unit and sections of the unit were determined Training by the trainers except for the physical part of the main section adopted by the researcher, for the researcher. The exercises prepared by the researcher were applied to the sample and in a CrossFit method, in which all CrossFit training forms are used, taking into account the intensity, size and comfort of each form, as the first month used the general form that states its nature On giving CrossFit training, note that the recovery period between groups gives a rest period (3 minutes).

Post- tests

The post-tests were conducted for the members of the research sample after completing the application of the training curriculum for days (Saturday and Sunday 25-26 / 6/2019) and with the same sequence of pre-tests and under the same circumstances and at exactly (3) in the afternoon until (7).

III. Results analyzed and discussed:

Table (1) Presentation of the results of the pre and post -tests, analyzing and discussing them for the experimental group						
Tests	Experimental group			Small value of W	(W) tabular value	Significance
	measuring unit	W+	W-			
Medicine Ball (3 kg) Back throw	M	1	35	1	3	Sign
The vertical jump from constancy	M	0	36	0	3	Sign

It indicates the significance of the differences between the pre and post -tests of the experimental group. Through the aforementioned presentation and analysis of the results of the pre- and post- tests of the experimental

group, the researcher achieved the first hypothesis of the research hypothesis using Wilcoxon’s test for small samples. By presenting the results that appeared in Table (2) that proved the significance of the differences between the pre and post- tests of the experimental group, the researcher attributes the significance of the differences that were achieved in the explosive ability tests for several reasons, the most important of which is that the exercises for weightlifting within the fit Cross method prepared by the researcher had A great impact on developing the explosive ability of young boxers, and this is what Lee E. Brown 2007 confirmed, “The development of explosive ability stems from special exercises called weightlifting exercises as these exercises achieve many benefits for all levels and that working on these exercises will achieve the production of strength and speed, That is, the ability produced from force and speed have special benefits directed within the special ability. ”In addition, the most important way to develop explosive power is to be within table tennis exercises for the purpose of developing two elements of velocity with force at the same time, so the researcher harnessed the method that works on The development of this special force, CrossFit, and this is confirmed by (Boy Deploy 2000), when he pointed out that "there are training methods called explosive training, as they can be achieved through table tennis exercises for Achieving the best results in developing explosive power. ”Harvey Newton 2002 describes that“ these training groups represented by weight training exercises have a great influence in developing explosive ability, which works to improve the level of achievement. ” This is what concerned the significant differences in the explosive ability test.

Table (2) Presentation of the results of the pre and post -tests, analyzing and discussing them for the Control group						
Tests	Control group			Small value of W	(W) tabular value	Significance
	measuring unit	W+	W-			
Medicine Ball (3 kg) Back throw	M	2	34	2	3	Sign
The vertical jump from constancy	M	3	33	3	3	Sign

This indicates the presence of significant differences for the control group in the medical ball throw test (3 kg) backward within the explosive power tests. As for the test of the vertical jump from stability to measure the explosive power of the leg muscles, it reached (and +) rank (3) and reached (and - Rank (33) since the smallest value

for (F) is (3) and the tabular value of (F) is (3) below the significance level of (0.05), which indicates the significance of the differences between the pre and post tests of the control group, and through the aforementioned Above from the presentation and analysis of the results of the pre and post tests of the control group, the researcher achieved the second hypothesis of the research hypothesis using Wilcoxon's test for small samples.

The results in Table (4) indicated the moral significance of the differences in the explosive strength tests of the pre and post tests of the control group, as the researcher attributes the significance of the differences for these tests to the continuous and regular training of the control group and that this continuation is of great importance in developing the explosive ability of boxers and this is what Donala confirmed 1996 A.1996) "Regular training according to scientific foundations leads to the development of physical abilities, so taking an appropriate amount of rest after high physical effort will help to restore an essential part of energy, meaning that it will help to continue training as much as possible, and after that the body will be in its greatest preparations to perform exercises The maximum accompanying the two elements of strength and speed, "(Bill forna 2001) believes that" continuous training on developing physical ability has a great impact on developing explosive ability. "In addition, the researcher attributes the significance of the differences to the exercises used within the approach followed and their important role in developing capabilities. This is what Dave Bellomo (2010) pointed out, "Hard training brings value to the physical effort expended as it works to develop special strength, the most important of which is J The explosive force, especially the lower part of the body.

Through the foregoing, the researcher agrees with (Bill Foran 2001) that continuous training works to develop physical capabilities, which have a great impact on developing special strength.

Table (3) Presentation of the results of the pre and post -tests, analyzing and discussing them for the Control group&Experimental group					
Tests	Control group&Experimental group		Small value of E	(E) tabular value	Significance
	E1	E2			
Medicine Ball (3 kg) Back throw	16	20	16	18	Sign
The vertical jump from constancy	14	22	14		Sign

It indicates the existence of significant differences for the experimental and control groups in the throwing medical ball test (3 kg) backward within the explosive power tests. As for the test of the vertical jump from stability, the smallest value for (j) was (14) and the table value of (j) It is (18), which indicates the significance of the differences between the two post-tests for the experimental and control groups. Through what was mentioned above in terms of presenting and analyzing the results for the two post tests of the experimental and control groups, the researcher fulfilled the third hypothesis of the research hypothesis using the Mann and Tiny test for small samples.

The researcher attributes the significance of the differences to the experimental group to the training method that it underwent, represented by the CrossFit exercises, which include weight training exercises, which seemed to have achieved this development, and this is confirmed by (Georg & Bob 2003) that "the most important exercises that work to develop explosive ability are weight-lifting exercises represented With the two Olympic lifts, the Snatch and the Kline, as these exercises work to develop the explosive power of the muscle groups in the body.

In addition to the type of system to which these exercises were subjected, represented by the anaerobic system, which is considered one of the systems for folding the explosive power that works to develop explosive power and this is what he referred to (Thomas & Roger 2005) when he said, "If you are serious about developing explosive power, you should not give Exercises that are subject to the aerobic system in the aspect of this development because exercises within the development of this ability in general need heavy weights that help improve muscle strength and this is what applies with the exercises of the anaerobic system.

As for (Donalo A. 1998), he believes that "aerobic capacity is a valuable element in the development of physical fitness in general, but anaerobic capacity is a component of greater value in developing explosive power, which deals with the component ATP stored in the muscle, which in turn works to achieve this." Exercises ”.

Through the foregoing, the researcher sees the significance of the differences that occurred in the dimensional tests of the explosive power of the experimental and control groups that the two groups were subjected to the same extreme stresses that worked to achieve the development of the explosive power, as well as the researcher's agreement with (Donalo A. 1998) that the air power is an element. Of value in overall physical fitness development but anaerobic ability is a component of greatest value in developing explosive ability.

IV. Conclusions and recommendations

In light of the results of the research, the researcher concluded that the training method that includes the diversity aspect with stress worked on developing the special force represented by the explosive ability and the distinctive force with speed. Cross FIT training had a direct effect on the development of the special force represented by the explosive ability, the distinctive force with the speed, and that the development that accompanied The explosive power had an effect on the force characterized by velocity, that the exercises that were subjected to the anaerobic system had a direct effect on the development of explosive power as well as the force characterized by speed.

The researcher recommended emphasizing the use of the Cross Fit method in boxing sport as the latest modern training methods, the necessity of working within the Cross Fit method with a diversity character of activities within different stresses, emphasizing the trainers in charge of the training process the need to develop the physical and functional levels in the training method used, generalize such Study on all boxing teams due to the necessity of informing workers in this field about such a study for the purpose of developing training capabilities, the necessity of conducting studies similar to such a current study within the Cross Fit method.

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