EFFECT RECIPROCAL TRAINING IN TRANSAMINASE ENZYMES AND THE ANAEROBIC LACTIC FUNCTIONAL ABILITY IN PERFORMANCE 1500-M RUNNERS.

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Abstract

The study aims to set exercises using reciprocal training and then determining the effect of training on Transamines enzymes (SGOT, SGPT). The researchers used the empirical method as a man for solving the problem of the study and a sample of (6) advanced runners (1500 m). The researchers also used a lot of methods, tools and equipments including the use of training programs for eight weeks and five training units in a week. The time of each training unit is (60-120) minutes. After conducting pre and post tests of the variables of the study, they were statistically treated. After analysis and discussion, the researcher found a lot of conclusions. The most important of them is the intensity of the used reciprocal training (50-95%) to raise the ability of Transamines enzymes (SGOT, SGPT), but within limits. The researchers recommended using other training methods on other sport samples to determine what happens to them due to various training.

Keywords: reciprocal training, Transamines enzymes, functional non-oxygenic and lactic ability, 1500 m runners.

1. INTRODUCTION & PROBLEM OF THE STUDY:

Like sport fields, human sciences were closely related to other sciences. Physiology and anatomy formed the most important scientific and practical connections with the sport field and performance. Any type of training left its important trace in man's life, organs and cells, so there were a lot of scientists and researchers who worked on two directions: discovering talents that need body building that is consistent with the type of specialized training, and the other is studying functional responses related to body systems by which change training loads from a training unit to another, training period to another and from training peak to another.

However, it is important to discuss evidences related to type of response, the Transamines enzymes can reflect feeling pain via value changes that happen to the level and value of these enzymes. Since training severity relate to the need of sports to different levels related to sport preparation periods. The problem of the study lies in the use of one of the types of highly severe training which is the reciprocal with different severity and its effect on lever enzymes and the functional, non-oxygenic glycogenic ability for one of the most important samples (1500 m running).

Goals of the Study:

The study aims to:

- Set training using reciprocal exercise for the sample of the study.
- Determine the effect of reciprocal training on Transamines enzymes and functional, non-oxygenic glycogenic ability for the sample of the study.

Hypotheses of the Study:

There are statistically significant differences in pre and post tests in the variables of the study.

2. METHODOLOGY:

The empirical method was used (it is based on direct dealing with different phenomena, observation and trial).

Sample of the Study:

A sample of six 1500 m runners was chosen purposively among applicant players who practice running in Al Jadria playground track. An exploratory sample was taken on one of them. Their training age was three years, their lengths were with mean of 1.71 cm and their weight was in a mean of 70 kg.

Tests of the Study:

Transamines Enzymes Test:

This test is conducted by sitting the examined on a seat in the position of pulling the blood in relaxation for 5 minutes in pre and post test and taking 3 ml of blood. After sampling, the blood to be transported to the laboratory for treatment and extract Transamines enzymes.

- Testing the step for 60 seconds.

Pre-Tests

Pre-tests were performed on 04/10/2014 by blood extraction first. After ending the test, the blood to be transported to the laboratory for treatment and extract Transamines enzymes, and then at the same day the non-aerobic lactic ability was performed.

Training Program:

- The training program was conducted using reciprocal training.
- Training severity was 50-95%.
- Program duration is eight weeks.
- Five training units weekly.
- Duration of a single unit: (from 60 to 120 minutes)

Post-test

Post-tests were conducted on 05/12/2014 and with the same conditions and procedures used in pre-tests. After ending these tests, their results were collected and statistically treated with pre-tests as in part four.

3. Results Analysis & Discussion

Table (1): Statistical features of variables of the study and significance of differences:

Statistical variables / Research variables	Pre-test		Post-test		Mean	S.D	T counted value	Significance
	Mean1	S.D1	Mean2	S.D2				
Transamines enzymes (SGOT) U.I	23.83	1.60	26.83	2.13	3	0.78	3.80	Significant
Transamines enzymes (SGPT) U.I	24.83	1.69	28.16	0.75	3.33	0.81	4.10	Significant
functional non-oxygenic and lactic ability kg/m/min	718	22.01	869.16	38.78	151.1	16.4	9.20	Significant

The T scheduled value: 3.18 freedom degree: 5 and significance level: 0.05

Table (1) shows that the arithmetic mean of SGOT was 23.83 and standard deviation was 1.60 in the in pre-test, while in the post-test they were 3 and 0.78. While conducting statistical treatments, it was found that the T counted value is more than the scheduled one which means that the difference is significant. The table also shows that the mean for SGPT enzyme was 24.83 and the S.D was 1.169 in pre-test, while in post-test the mean was 28.16 with difference of 3.33 and S.D of 0.81. While making the statistical treatment, it was found that the T counted value (4.10) is more than the scheduled one which means that the difference is significant too. The researchers found that these significant differences of Transamines enzymes are due to physical effort using the reciprocal method as we can see that differences came at normal limits which means that the effort is regular that did not affect muscles till the degree of cells damage despite the high value of these enzymes (SGOT) and (SGPT). This was asserted by Roger, 1996 as non-aerobic physical effort affects the increase of Transamines enzymes' concentration and this increase percentage directly related to body load severity. Moreover, Alexander, 2002 found that training with specialized sport lead to an increase in enzymes work that contributes to preserve chemical balance inside the body.

As for the functional non-oxygenic and lactic ability, the mean was 718 and the S.D was 22.01 in pre-test, while in post-test they were 869.6 and 38.78. The difference of means was 151.1 and S. D was 16.4. Statistical treatment of the T counted value found that it was

9.20 to be bigger than the scheduled one. This means that the difference is significant and the researcher found that the cause of this difference was the training program that was gradual in using severity. In addition, reciprocal method contributed to regulate the work of functional systems which helped the players continue with the effort and achieve high ability significant level in functional non-oxygenic and lactic ability which was asserted by Astrand, 1997 as power production from ATP-CP and non-oxygenic glycogenic endurance in sports 15s-3 min, contributes to provide muscles with a direct source of energy.

4. CONCLUSIONS:

1- Training severity from 50 to 95% affects and raises values of lever enzymes (SGPT) and (SGOT) but in limits.
2- Training severity from 50 to 5% affects the non-aerobic lactic ability significantly.
3- Training duration of eight weeks and for five training units does not contribute to destroy muscular cells till the significance degree.

5. RECOMMENDATIONS:

1- Using training methods with another physical severity and abilities.
2- Conducting similar researches on other samples.
3- Using training periods and other training units and periods.

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