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The Effect Of Interval Training On Liver Enzyme Activity In Fitness Practitioners

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Abstract: The study aimed to develop targeted specialized exercises when practicing fitness activity and then know the activity (GPT and GOT) as variables reflecting the image of cell degradation or preservation as a result of adaptation to the level of functional devices, so the experimental method was chosen by the method of one sample as a way to solve the issue. The researcher used a deliberate sample of (10) practices and used training with a training intensity of (50-80%) for two months at 3 units per week, the time of each training unit (60d), then the researcher conducted post-tests and used statistical methods for treatment. The results were presented in tables and the most important conclusions were that specialized training contributes to the stability of GPT and GOT enzymes and is not affected to the degree of high altitude.

Keywords: Interval Training, Liver Enzyme, Fitness Practitioners

Introduction

Cultural societies in the world are meeting to move towards solving the problems of society that indicate the danger of draining human life due to the increase in mechanization and the decline of physical work(Alizadeh et al., 2019), not at the level of physical practice, but at the level of the link between physical starch and the body's readiness to accept that effort, because (Kalaki-Jouybari et al., 2020)"many functions of the body systems interfere to complete the increased energy requirement during physical effort, as the metabolic rate will gradually increase(Kelardeh et al., 2020), approaching the intensity of interval training, which forces the liver to deal with its enzymes (GOT - GPT) to maintain that energy.(Ezpeleta et al., 2023) The liver works to supply the body with sugar through glycogen degradation and lactic acid degradation(Machado, 2021), which contributes to the continuous supply of energy to the body's cells to resist the conditions that physical exertion has on functional systems(Thorp & Stine, 2020). In fact, this is done in addition to what has been

mentioned through the preparation of special exercises to obtain the adaptation and physiological normalization of the body's organs and functions (Rahman et al., 2020). Hence, in order to reveal the possibility of the liver's tolerance to physical exertion and its readiness to activate the body's cells, the research (Faris et al., 2021)problem lies in knowing the value and activity of liver enzymes (GOT-GPT) to reveal the amount of cell damage and the possibility of functional organs affected by specialized exercises (Banitalebi et al., 2019).

1.2 Research Objectives:

- To develop specialized exercises that contribute to the maintenance of GOT-GPT activity.
- To find out the differences of GOT-GPT values in the post- and preliminary results (Salvand et al., 2019).

1-3 Research hypothesis:

- There are significant differences in the post-test and pre-test values of the research variables (GOT-GPT)(Kalaki-Jouybari et al., 2020).

1-4 Research Areas:

1-4-1 Human domain: A sample of physical fitness practitioners at the University of Baghdad.

1-4-2 Temporal Domain : For the period from 4/1/2024 - 6/3/2024.

1-4-3 Spatial domain : The training hall at Baghdad University.

Methodology

2.1 Research Methodology:

The experimental method was used with a one-group design "because it is considered the most appropriate and suitable method to achieve the research objectives and hypotheses"(Fredrickson et al., 2021).

2-2 Research sample:

The sample used was a random sample of (10) practitioners who practice physical training at the University of Baghdad where their ages range between (35-40) years and their heights (Marcangeli et al., 2022)with an arithmetic mean of (1.59) meters and their weights averaged (75-80) kg(Machado, 2021).

2.3 Instruments, tools and methods used in the research:

- Scientific references.
- Internet network

- Information form.
- Pathological analyses laboratory and materials required to draw blood.
- A container for blood preservation.
- Support staff.

2.4 Tests used in the research:

- GOT-GPT test

One of the tests that give a picture of cell degradation and the loss of its compounds(Hajighasem et al., 2019), so blood was drawn with a number (3cc) of the sample and at rest in the pre-test (before the program) and the post-test in order to know the effect of these two enzymes on the activity given(Fakhri et al., 2020), where the tester sits in the base on the chair and the tester draws blood and transfers it in a container to the Jenin laboratory for analysis and obtaining the results(Murawska-Cialowicz et al., 2020).

2.5 Exploratory experiment:

It was conducted on Thursday, 4 January 2024, on one of the practices in order to find out the issues that prevented the main experiment from being conducted(Khalafi et al., 2020).

2-6 Pre-testing:

The procedures took place on Saturday, 6/1/2024, where the blood(Salvand et al., 2019) was drawn and transferred to Jenin Hospital for analysis and obtaining the results of (GOT-GPT) at ten o'clock in the morning, as described in the third section of the tests paragraph(Kelardeh et al., 2020).

2.7 Special Exercises (Appendix 1):

Special exercises were used related to oxygen training related to energy expenditure, where several methods were used (tridimel, body weight exercises, light weight exercises(Słomko et al., 2021), medicine ball exercises and others) where the intensity was used between (50-80) % for a period of eight weeks and 3 training units per week for (60 minutes) (Rosoff et al., 2019)The experiment extended for the period from 7/1/2024 to 6/3/2024, where on Wednesday, 6/3/2024, the post-tests were conducted(Xiong et al., 2021).

3-8 Post-tests:

Performed on Wednesday, 6 March 2016, the blood draw procedures (3cc) and obtaining the results of GOT-GPT enzymes as described in the tests section (Section III).

2-9 Statistical methods:

Statistical methods were used according to (SPCC)(Mohammadi et al., 2019).

Result and Discussion

3- Presenting, analyzing and discussing the results:

Table 1. Shows the statistical values of the research variables and the statistical significance values

Statistical significance	Value t	F(h)	f	Test B		Test S		Statistical values / Variables / Search
				Standard Deviation 2	Arithmetic mean 2	Standard Deviation 1	Arithmetic mean 1	
غير دال	0.86	0.81	0.7	1.9	22.4	1.51	21.3	GOT U.L
غير دال	0.92	0.65	0.60	1.3	24	1.6	23.4	GPT U.L

T-value (2.36) at degree of freedom (9) and significance level (0.05)

From matrix (1), we know that the mean value in the pre-test of GOT was (21.3 U.L) and the standard deviation (1.51) as it was (22.4 U.L) and the standard deviation (1.9) in the post-test, while the difference of arithmetic means (F) was (0.70) and the difference of means (GH) (0.81). (81) After using statistical methods to know the value of (T) calculated, it was found that its value (0.86) as the tabular value (2.36), degree of freedom (9) and significance level(Thorp & Stine, 2020) (0.05) and when the value of (T) calculated is smaller than the tabular value, it means that the difference is random(Salvand et al., 2019).

In the GPT test, the mean was (23.4) and the standard deviation was (1.6), while in the post-test, the mean was (24) and the standard deviation was (1.3). 3) and the difference of arithmetic means (F) was (0.60) and the standard deviation of the difference of arithmetic(Thorp & Stine, 2020) means (F e) was (0.65) and when using statistical methods to know the value of (T) calculated, it was found that its value was (0.92) (Rahmani et al., 2019)while the tabular value was (2. (36) in front of a degree of freedom (9) and a significance level (0.05) and since the calculated (T) value is smaller than the tabular means that the difference is random and the researcher attributes the random differences to the regularity of training and the vocabulary of the unit that did not lead the players to overtraining and then move the field as "physical load during training achieves functional adequacy of the

athletes' circulatory system for the vital role that the system plays in transporting oxygen to the tissues."(2003)(Salvand et al., 2019).

This means "the performance of work or athletic effort was at a level that brought the body's activity to a level that makes the athlete in the form of continuous performance and able to resist everything that hinders the desired athletic activity."(, 1984)(Rosoff et al., 2019).

Therefore, all fitness practices are based on a level of organized performance related to the (Kalaki-Jouybari et al., 2020)readiness of the functional systems to give more as the physical effort increases depending on the adaptation of the functional systems "When the respiratory system is affected, the depth of breathing increases and the resting respiratory rate decreases as a result of adaptation in lung volumes and capacities."(, 2001)(Baker et al., 2021).

Table 2. Appendix

Date: 28/2/2024 Shows the vocabulary of a unit
Unit Time: (60) D
Today: Wednesday
Sample/Activity Practices
Objective: Develop special muscular strength

Notes	Comfort between groups	Totals	Rest between repetitions	Repetition	Tightness	Workout time	Exercise	Loneliness sections	t
						ى 15	General and specific warm-ups	Preparatory	1
Guiding practices on timekeeping and consistency of exercise	2m	2	1m	3	70	3s	Bodyweight handstand jumps	Main	2
	2m	2	1m	3	80	30s	Setup Sideways		
	2m	2	1m	3	80	30s	Pulls the mate hard		
	2m	2	1m	3	80	30s	Pushing and resisting by a colleague		
	2m	2		3	70	30s	Pulling the colleague from behind as the colleague walks		
						10s	Cool down exercises	Closing	3

Conclusion

1. There is no significant difference in the value of (GOT) in the post-test compared to the pre-test.
2. There is no significant difference in the value of GPT in the post-test compared to the pre-test.
3. Structured training contributes to the stabilization of GOT and GPT enzymes and does not affect them to the degree of high altitude.

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