

## **Effect of Suggested Training Program by Using Weight Exercises on Decreasing the Level of Triglycerides**

**Dr. Ibrahim Mohammad Harafsh**

**Dr. Faleh sultan abu eid**

Faculty of Physical Education and Sport Sciences  
The Hashemite University

### **Abstract**

*This study aimed at reconnoitering the effect of a suggested training program by using weight exercises on decreasing the level of triglycerides, where the researchers used a group of weight devices to benefit in this study. And the researchers employed the experimental method at the system of one group, where the anterior scale was taken for the level of the triglycerides the sample of study amounting (25) students of the Faculty of Physical Education and Sport Sciences in the Hashemite University, the Third Year Level. And after subordinating the sample to eight weeks of weight, exercises and at (50%) power of the highest weight, with increasing two repetitions, and every two weeks the posterior scale was taken to the sample of study by the same way. And results of study had shown the non-existence of statistical indication between both scales; the anterior and the posterior at the level of the triglycerides, where the discussion of results of study indicated to the existence of low levels of triple fats amongst individuals sample of the study and shortness of training period. And the researchers recommends to shortening of periods of rest in between the training rounds, and doing a study employing different training methods by using weights on samples suffering from the rise of the triglycerides rat.*

**Keyword:** Triglycerides, Training Program, Weight Exercises

### **Introduction**

The technological development in our contemporary time played a positive role in developing the human communities, and saving all means of welfare for it. And in spite of that development, the unavailability of physiological demands of the human, represented in fewness of movement resulted in many diseases called “diseases of fewness of movement”, which had been intensely spread in all communities. So, it became obligatory for individuals to practice different motor activities to keep the general health of the physiological devices in the body (Ar-Rabadi, 2000).

The motor activities can proceed to the required technical level through developing motor propriety concerning the performance, where an individual performs the movement exploiting the concealed energy at him, and directs it at a correct direction to achieve the best results. For that to be done it is a must to concern about working to achieve the level of physical propriety and its different elements (Abu Ju'b, 2001). The general preparation of the physical propriety elements, such as power, endurance and haste.... etc. work to acquire the sport individual the physical attributes at a tough and a well-balanced form, in addition to many experts and specialists in the field of physical propriety such as (Shepared, 1999) and (fox et. Al, 1998) assured that the physical propriety and its basic elements are the foundation stone to all practitioners of the sport and motor activities. The importance of physical propriety springs from the extreme concern entrusted by sport propriety scholars, and which had the biggest effect in the life of normal individuals and from the health side in the first degree (Sari Hamdan et.al, 2001).

And Abdel Fattah (2003) assures that improving the efficiency of the body and increasing its capacities tightly connects the muscular system, represented in the extent of power, haste, and endurance of muscles of fatigue resulted in the muscular work, and we can grow the muscles efficiency through the training programs, with which we use instruments and resistance devices in particular, where they lead to occurrence of occupational morphological changes in the body, such as the increase of the muscular mass size, and decrease the rate and size of fats.

Practicing exercises of power by the resistant's, assists in decreasing the level of the whole cholesterol in the body, where a group of researchers in the center of Veteran Department for Medical Affairs by the assistance of Arizona University did a study covered (46) women, who subordinated to weight trainings program for an hour three times a week for five months. And after the five months results showed that there is a drop in the level of the whole cholesterol, specifically drop of harmful cholesterol rate (LDL) at a sum of (%12) without any influence on the level of the harmless cholesterol (HDL). (Williama and Castell).

And (Caral study, 2009) indicates that the power exercises three days a week for (12) weeks, shared in decreasing the rate of the whole cholesterol among at a group of men who suffer from the rise of the whole cholesterol level. Meanwhile (Lee, et. al., 1990) view that the power trainings for (10) weeks did not have any influence with statistical indication on the level of fats in blood amongst a sample of mature males. And the researchers ascribe that to the existence of low levels of cholesterol at the sample of study, and to the shortage of training period.

And a study done by ( the Faculty of Physical Education in Tartu University,1990) in which weight trainings were used by circular training with the one round on the biochemistry of blood for a group of male students of the university assures indication on changing the level of the whole cholesterol and triglycerides.

And (Lee, et. al, 1990) study indicated that the period of (10) weeks of power training and breathing periodical adoring on the level of blood fats at males. And results of study had shown unchanging of triglycerides level in bodies of the participants, ascribed to shortness of training period. And (Moyer, 1990) indicates to the natural rate of (Triglycerides) is between (80-170) mlgr/ adistlerdam, meanwhile the rate of triglycerides increased more than (250) mlgr/ adstlerdam, may lead to catch heart diseases, and practicing physical activities of different forms decreases the rate of triple fats through consuming them a source of energy (Shifren, Bauserman, 1993). And (Sung, et.al, 2002) assured the existence of influence of muscular power and nutritive diet on the level of blood fats through a study entitled" effect of nutritive diet and power trainings on the level of blood fats at fat children", and recommendations of this study indicated to obligation of existence of variety of training patterns and forms, and long time periods.

And (Al-Muti,1998) defines the triglycerides as type of fats existing in the body and work to storing fats in the body at the form of triple fats at an average of (200) grams for every hundred cubic centimeters of blood or plasma, that is about two or four militants transformed into one liter, and it is one of causes of coronary arteries diseases, (Moyer, 1990) defines the triple fats as an organic chemical stuff stored inside the muscular fibers in few amounts at the form of a chemical compound, known as triglycerides. It is a type of three united fat acids with a group of Jeid ydat, and there's Jleidydat are a non-fat stuff and it is necessary for fat to enable transferring (Fatty Acids) to the cells or making triglycerides inside the body, that represent the majority of fats in the human body, from saturated and unsaturated fats, and compound like the phosphoric, carbohydrate and protein fats. And (Salamh, 2000) views that reactions resulted from variety in methods and forms of training may occur physiological adaptations to the different systems of the body.

### ***Problem of Study & its Significance:***

Many scientific studies sought proving that practicing the physical activities at their different forms and methods of their performance, work to improve the work of vital systems in the human body, and so improve the physical propriety on both levels; the competitive and that connected with health, the thing that is reflected on accomplishment. And through the researchers's job as teachers of some subjects or like the physical trainings and weight trainings and the physical propriety connected with health. The researchers had noticed a variation in opinions between trainers and the teaching staff members that non-aerial trainings represented in exercises of muscular and physical power with not work to decrease the level of harmful fats of blood and ability of scientific studies to decrease the level of triglycerids. And the researchers wants to be sure that through this study, if a training program had been used by employing weights and by the method of the continuous performance to decrease the level of triglycerids, and so achieving benefits referring to the individual.

The significances of this study comes from proving the extent of motivation of power programs, in which periods of rest are few is able to bid occur physiological changes, not only at the level of muscles power and hugeness at the level of the internal environment of the body, from which are levels of blood fats, the thing that is reflected on the health sides of individuals, and promotion of the physical propriety level at them, and so, employing such training programs by trainers and motivating them on trainees, who suffer from high levels of triglycerids.

**Objectives of Study:**

Effect of the suggested training program by employing weights on decreasing the level of triglycerids.

**Hypothesis of Study:**

There are differences with statistical indication at the level of indication ( $0.05 \geq \alpha$ ) for the effect of the suggested training program between both scales; the anterior and the posterior for the level of triglycerids and the differences between them both for the interest posterior scale.

**Procedures of Study:****Method of Study:**

The researchers employed the experimental method with the system of the one group for its appropriateness of the nature of study and its objectives.

**Community of Study:**

The community of study consisted of the Third year students at the Faculty of Physical Education and Sport Sciences in the Hashemite University, whose ages amount between (21-22) years from the studying year (2014/2015), where the number of the community of study amounted (260) male and female students.

**The Sample of Study:**

The Sample of Study consisted of (25) students of the Faculty of Physical Education and Sport Sciences from the Third Year and with different specializations in the Hashemite University. And the Sample was randomly chosen. And to be sure of the homogeneity of the sample  $k_2$  test was used.

**Table No.1:  $k_2$  test for the homogeneity of the sample in both variables of length and weight P.T.O/ P.9**

Variables	Arithmetic Mean	Standard Deviation	$k_2$ value	True Level of Indication	Indication
Length	1.7316	6.54	614.017	0.992	Un-indicative
Weight	70.76	13.26	114.879	0999	Un-indicative

It is clear from the table No (1) what concerns the variable of length that the arithmetic mean amounted (1.7316) or with a standard deviation (6.54) and  $K_2$  value amounted (5.76) and with a indication (0.992) that indicates to the homogeneity of the sample of study individuals by length, but what concerns weight amounted (70.76) and with a standard deviation indicating to the homogeneity of the sample in the variable of the weight.

**Instruments and Devices of study:**

The researchers in this study used a group of instruments and devices:

- Pieces of paperboard numbered to specify the track of the students moving on training stations.
- Medical balance to measuring length and weight.
- A Device for measuring the rate of triglycerids in the blood, type ( Integra 400).
- A group of weight training devices that were used to train individuals of the sample of study, and they are organized as follows:

organized as follows:

1. Leg Curl Device.
2. Triceps Pull Down Device.
3. Leg Extension Device.
4. Biceps Curl Device.
5. Abductor and Adductor Thigh Device.
6. Lat Pull down Device.
7. Hips Extension Device.
8. Sead Pulley Rows Device.
9. Cailf Muscle Device.
10. Cross Machine Device.
11. Hyper extension Device.
12. Bench Press Device.
13. Upper Back Device.

Appendix No.(1) clears the suggested program

### ***Method of Study***

It was coordinated with individuals of the sample of study from Faculty of Physical Education and Sport Sciences students in the Hashemite University, concerning the appointment executing, in addition to paraphrasing the objective of study, and how to execute the program and making sure that all individuals of the sample master using devices of training as a whole.

### ***Method of executing the program:***

After referring to the scientific references and previous studies related to weight training and ways of training them, and techniques of using them, and what concerns the constituents' of blood and of them the triglycerids, where the researchers got benefit of these references from part of methods of measure and techniques of training concerning the muscular power, instruments and employed devices. And the how of building the remaining program, where the employed power exercises was specified, for the burden of training covered:

1. Period of training program.
  2. Duration of the one training unit.
  3. Devices and their organization at time of executing training.
  4. Number of repetitions in the training unit.
  5. The highest weight can be lifted ten rips.
  6. Periods of rest among the rounds.
  7. The how of increasing weights.
- The researchers chose the sample of study by the random method from students of the faculty, from the level of the Third year, where the researchers assured of emptiness of their studying programs from any practical subjects, or any sport activities.
  - The researchers prepared the training program at its initial form, then showed it to a group of arbitrators, who arbitrated it, amended it, and graves their notifications on it. Then, the researchers accepted their notifications, and so amended his training program.
  - The training program included a paragraph observes the big and small muscles in the body.
  - The researchers concluded a meeting with the individuals of the sample of study, where he explained to them the machinery of executing the raining program and assured of their mastering of all using existing devices in the training hall.
  - The researchers did number devices of the study, to specify the line of individual's track of the sample of study, where no exercise precedes another exercise.
  - The researchers demanded from individuals of the sample of study doing the diagnosis of the triglycerids in the laboratory existing then health center following the Hashemite University inside the university under the supervision of the lab master. And the researchers was assured from individuals of the sample of study that they did not eat before (12) hours of doing the examination, for it lasted for five days at every group of students in an average of five students a day.
  - The researchers supervised the training operation personally, for (9) weeks at an average of (3) days a week, and for one hour.
  - The stage of applying the study started on.
  - (9/9/2013-3/11/2014), and the anterior test was applied in the period between 6/8/2014 until 8/8/2014, but the posterior test was done in the period between 5/11/2014- until 7/11/2014.

### ***Statistical Processing:***

- Arithmetic means and standard deviations.
- (T-Test) for comparison between both scales; the anterior and the posterior.

### ***Results Show & Their Discussion:***

In light of the objective of study, the researchers did the statistical processing of the data, which have been obtained through the results of anterior and posterior scales of the variable of study. That is to reconnoiter the effect of the suggested training program by employing weights to decrease the rate of triple fats. and in the following a show of the hypothesis of study results.

**Hypothesis of the study:**

There are differences with statistical indication at the level of indication ( $0.05 \geq \alpha$ ) for the effect of the suggested training program between both scales; the anterior and the posterior of the level of the triglycerids and the difference between them both and for the interest of the posterior scale. And the response to the hypothesis of study was done through using (t-test) of comparison between both scales with what concerns the rate of the triglycerids, and the table no. (2) Clears that.

**Table No.2**

The Variable	Anterior Test		Posterior Test		Averages of Difference	(T) Value	True Indication Level	Its Indication
	Arithmetic Mean	Standard Deviation	Arithmetic Mean	Standard Deviation				
Rate of Triple Fats	135.4	34.4	139.2	37.30	-3.8	-1.5	1.42	Un indicative

Its is clear from the table No (2), which concerns the variable of the triple fats rate that the arithmetic mean of the anterior scale amounted (135.40) and a standard deviation amounting (34.200), meanwhile the arithmetic mean of the posterior scale amounted (139.20) and a standard deviation amounting (37.30), meanwhile the difference among the average amounted (-3.8), meanwhile the value at (t) amounted (-1.5). and with a level of true indication (1.42) and it is bigger than the level of indication (0.05), which indicates to the non-existence of differences with a statistical indication between both scales. And to find the rate of improvement with what concerns the rate of triple fats amongst individuals of the sample of study, the researchers employed the formula of development and improvement by the means of percentages, they are:

Improvement Formula = (Schmit, 2003)

$$\frac{= 139.20 - 135.40 \times 100\%}{1.35.40} = 0.028$$

$$\frac{\text{Posttest-pretest} \times 100\%}{\text{Pretest}}$$

**Result Discussion:**

The objective of this study is to reconnoiter the effect of the suggested training program by employing weights on decreasing the rate of the triglycerids. For the hypothesis of study worded on the existence of differences with statistical indication at the level of indication ( $0.05 \geq \alpha$ ) of the effect of the suggested training program between both scales; the anterior and the posterior of the level of triglycerids and for the interest of the posterior test. And to investigate and prove the hypothesis of study, the researchers used (t-test) between both scales; the anterior and the posterior. And results of study indicated to non-existence of differences with statistical indication between both scales; the anterior and the posterior, and the table No. (2) clears that. And also the formula of development or improvement by means of percentages. And the researchers discribes that to existence of initial or low of triglycerids in the anterior scale of individuals of a sample. And also the number of repetitions used in the one round was few at the highest average (10) repartitions, along the suggested program or did not increase from that to take the attribute of muscular endurance. Existence of relatively long periods of rest between every round and the other at a height average of (2) minutes, being the weight trainings are classified within the anaerobic activities, which depend on the anaerobic sources of energy (Glyoolytic system, pcr, ATP), where some results of study agreed with the Faculty of Physical Education in Tatu University) study.

**Deduction & Recommendations:****Firstly: Deductions:****The study reached the following deductions:**

1. Non-existing differences with statistical indication between both scales; the anterior and the posterior at the level of triglycerids.

**Secondly: Recommendations:**

The researchers in light of the results of study with the following:

1. Decreasing periods of rest in between the training rounds.
2. Increasing the number of repetitions more than (12) repetitions in the one round.
3. Doing a study employing different training methods by using weights on samples suffering from the rise of triglycerids rate.

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**Appendix No (1) the Suggested Training Program by Means of Weight Exercises.**

Date	Warming up	Exercise	Repetition	Size	Power from IRM	Periods of Rest
First & Second Weeks	(5) m <sub>s</sub> running + Place jumping + 5m <sub>s</sub> elongation	<ul style="list-style-type: none"> <li>- (Leg Curl Exercise).</li> <li>- (Triceps Pull Down Exercise).</li> <li>- (Biceps Curl Exercise).</li> <li>- (Abductor and Adductor thigh Exercise).</li> <li>(Lat Pull Down Exercise). -</li> <li>(Hips Extension Exercise). -</li> <li>(Seated Pulley Rows Exercise). -</li> <li>(Calve Exercise). -</li> <li>(Cross Machine Exercise). -</li> <li>(hyper Extension Exercise). -</li> <li>(Bench Press Exercise). -</li> <li>(Upper Back Exercise). -</li> </ul>	(6) repetitions for one jump	Two rounds for (20) minutes on Devices	% 50 from the Heaviest Weight	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">(20) seconds between an exercise &amp; the other for two rounds</div> <div>Total (5.40) m</div> </div>

**Appendix No (1) the Suggested Training Program by Means of Weight Exercises.**

Date	Warming up	Exercise	Repetition	Size	Power from IRM	Periods of Rest
Third & Fourth Weeks	(5) m <sub>s</sub> running + Place jumping + 5m <sub>s</sub> elongation	<ul style="list-style-type: none"> <li>- (Leg Curl Exercise).</li> <li>- (Triceps Pull down Exercise).</li> <li>- (Leg Extension Exercise).</li> <li>- (Biceps Curl Exercise).</li> <li>- (Abductor and Adductor thigh Exercise).</li> <li>(Lat Pull Down Exercise). -</li> <li>(Hips Extension Exercise). -</li> <li>(Seated Pulley Rows Exercise). -</li> <li>(Calve Exercise). -</li> <li>(Cross Machine Exercise). -</li> <li>(Hyper Extension Exercise). -</li> <li>(Bench Press Exercise). -</li> <li>(Upper Back Exercise). -</li> </ul>	(8) repetitions for One Jump	Two Rounds for (24) minutes on Devices	% 50 from the Heaviest Weight	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">(30) seconds between an exercise &amp; the other for two rounds</div> <div>Total (6) ms</div> </div>

**Appendix No (1) the Suggested Training Program by Means of Weight Exercises.**

Date	Warming up	Exercise	Repetition	Size	Power from IRM	Periods of Rest
Fifth & Sixth Weeks	(5) m <sub>s</sub> running + Place jumping + 5m <sub>s</sub> elongation	- (Leg Curl Exercise). - (Triceps Pull Down Exercise). - (Biceps Curl Exercise). - (Abductor and Adductor thigh Exercise). (Lat Pull down Exercise). - (Hips Extension Exercise). - (Seated Pulley Rows Exercise). - (Calve Exercise). - (Cross Machine Exercise). - (Hyper Extension Exercise). -  (Bench Press Exercise). -  (Upper Back Exercise). -	(10) repetitions for One Jump	Two Rounds for (26) minutes on Devices	% 50 from the Heaviest Weight	(35) seconds between the exercise & the other for two rounds  Total (7) ms

**Appendix No (1) the Suggested Training Program by Means of Weight Exercises.**

Date	Warming up	Exercise	Repetition	Size	Power from IRM	Periods of Rest
The Seventh & Eighth Weeks	(5) m <sub>s</sub> running + Place jumping + 5m <sub>s</sub> elongation	- (Leg Curl Exercise). - (Triceps Pull down Exercise). - (Leg extension Exercise). - (Biceps Curl Exercise). - (Abductor and Adductor thigh Exercise). (Lat Pull Down Exercise). - (Hips Extension Exercise). - (Seated Pulley Rows Exercise). - (Calve Exercise). -  (Cross Machine Exercise). - (Hyper Extension Exercise). -  (Bench Press Exercise). - (Upper Back Exercise). -	(8) repetitions for One Jump	Two Rounds for (24) minutes on Devices	% 50 from the Heaviest Weight	(30) seconds between each exercise & the other for two rounds  Total (6) ms