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Effects of Conjugated Linoleic Acid and Eight Weeks of Resistance Training on Body Composition in Athletes Set Parham Clubs in the Shiraz city

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ABSTRACT

Conjugated linoleic acid is a polyunsaturated fatty acid. Conjugated linoleic acid is used as a fat burning in the body. Linoleic acid supplementation on body weight, body mass index and fat, cholesterol, triglycerides, low-density lipoprotein, high-density lipoprotein density lipoprotein small allotment is not clear. This study aimed to describe and evaluate the effects of resistance training combined with the use of conjugated linoleic acid on lipid profile and body composition. For this purpose, 20 male athletes as subjects in the RT group (n = 10) and Lino Leek conjugate acid supplementation and exercise (10). Resistance exercise performed. At the end of supplementation and exercise blood of both groups was performed by laboratory personnel. Conjugated linoleic acid supplementation significantly decreased body weight, body mass index and percent body fat compared to the placebo group practice is practice. The results showed statistically significant differences between the two groups. (P<0/05), but supplementation with conjugated linoleic acid on serum cholesterol, triglycerides, low-density lipoprotein, high-density lipoprotein density lipoprotein affect small allotment no statistically significant differences between the two groups. Although our results suggest that supplementation with conjugated linoleic acid on body weight, body mass index and body fat percentage, although no significant effect on lipid profiles.
KEY WORDS: Lino Lyyk conjugate acid supplementation, body composition, lipid profile, resistance training.

1. INTRODUCTION

Also refreshing and exhilarating sport environment and the prevention of weight loss and fitness and frailty and sickness is. Exercise or enforcement of the most important factors in disease prevention and rehabilitation of damaged and boost physical stamina and will work. Excessive consumption of foods high in fat and stored body fat increased immobility closely with the relative and absolute, it is usually to be seen. Atherosclerosis is a multifactorial disease is the leading cause of deposition of cholesterol in the blood vessel wall cholesterol in the plasma lipoproteins. Is a bunch of lipoproteins? Low-density lipoprotein as a risk factor, and another set as a low high-density lipoprotein remain useful. Increase low-density lipoprotein in the blood is one of the factors for atherosclerosis. Found that people with regular physical activity are less likely to have cardiovascular disease. Resistance training involves a series of activities in order to counter the force of muscle contraction, the weights will be created. The idea of using resistance training in order to extend the functions of sports, dating back no more than 25 to 30 years. Since the early 1980s, several studies of a well-designed strength and fitness for competitive and recreational Vrshkaran - each had two. Sports supplements are a great help athlete's get the right amount of calories, carbohydrates and protein in the diet. However, they should be considered as a supplement, not substitute for a good diet meal. Although animal studies are considered controversial. However, most studies did not show any benefits in humans.

2. EXPRESSED CONCERN

In 1990, the American College of Sports Science was the first leader of the resistance training as a key component in the preparation of the entire population of all ages presented. it is the main control lipid profiles. To investigate the changes in lipid profiles, blood levels of cholesterol changes in time are examined. So the three main indicators of low-density lipoprotein cholesterol and very low density lipoprotein HDL-C and examine ourselves. Percent of athletes, especially strength athletes use supplements without being aware of the benefits and risks. One of these supplements Lino Lyyk conjugate acid is the goal of this study was to evaluate the effect of CLA supplementation on body composition and Lyyk Lino acid is lipid profiles.

3. THE IMPORTANCE AND NECESSITY OF RESEARCH AND INNOVATION ASPECTS

One of the major causes of death in the world and especially our heart disease - vascular. One of the risk factors for this disease is the pathological changes of lipids. Research evidence suggests that overweight and

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obesity is associated with increased lipid Some research suggests that the factors affecting the level of lipid profiles, can be conjugated linoleic acid supplementation and resistance training exercises named. On the other hand, due to the fact that more research on the effects of continuous physical activity on body composition and lipid profile done a little research on resistance training is done, the importance of resistance exercise on body composition and lipid profile represents be. In the study done on the basis of information already available in local authorities, researchers in this field have not recorded material published.

4. GOALS HAIR

The overall objectives :
Effects of conjugated linoleic acid and eight weeks of resistance training on body composition in athletes set Parham clubs in the city

Detailed objectives :
Describe and evaluate the effect of eight weeks of resistance training on levels of conjugated linoleic acid and lipid profiles
Describe and evaluate the effect of eight weeks of resistance training on lipid profiles
Describe and evaluate the effect of eight weeks of resistance training on body composition

Methods and study design

This study is experimental and applied. In this study we examined the relationship between cause and effect. In this case, the independent variable (the effect of CLA supplementation, RT) was applied to the effect on the dependent variable (on body composition and lipid profiles) will be investigated. Thus, research projects, post-test design with a control group. The population of this study, athletes, fitness club that the club Parham Parham Shiraz Shiraz 5.1 to 2 years were busy practicing them, 20 patients were randomly based on the criteria of 5.1 of the 2 year, without any condition as they were sampled. Then, based on a maximum level of 10 were divided into two groups. Measurements of weight and height measuring device Sahand and weighing 1.0 kg was measured gauge PICA and the margin of error. When measuring your body fat with calipers were performed. The simplest way to determine body fat percentage using a caliper. Before and after a workout at the gym triceps skinfold calipers using the arms, abdomen, thighs, and all subjects were measured. [1]

5. CONCEPTS AND DEFINITIONS

LP: There are complex molecules that are composed of lipids and proteins proprietary hydrophilic by the intestinal mucosa and liver synthesized.

Conjugated linoleic acid: a polyunsaturated fatty acid is. Conjugated linoleic acid is used as an energy source for the body. [2]

Resistance training: Resistance training involves a series of activities in muscle contraction. In order to cope with the weight force is created, as shown in Figure 1.

Figure 1: Resistance exercise in the gym Parham Shiraz

6. RESISTANCE TRAINING PROTOCOL

After measuring height, weight, body fat percentage, the subjects into two groups according to body mass index-matched (Lino Lyyk conjugate acid supplementation and resistance training) and a group (only RT) were divided. The total duration of the experiment was 8 weeks of resistance training on muscle strength of the lower

extremities during the week (quadriceps) muscles of the pectoral muscles of the biceps, triceps triceps shoulder Vkmrbnd done, to do the test, subjects in the first 5 minutes to warm up your body by stretching and exercise. Resistance exercise protocol consisted of 2 to 4 week program where the pressure is increased at 4 weeks of training. Each session consists of 2 muscle groups (chest, triceps triceps) and muscle (Dvsrjlv arm) and muscles (scapula and Quadriceps) in Figure 1. In each training session during a regular training program with a set of 8 to 12 and the rest 1 minute between sets and exercises at the end of each group of muscles, stretching of the muscle were performed at the end of each session 10 minutes to cool down that includes stretching - stretching and 5 minutes of aerobic exercise (Jagyng and) were performed. [3]

Figure 2: The scapula and Quadriceps group training session at the club Parham Shiraz

Each session consists of 2 muscle groups (chest, triceps triceps) and muscles (biceps biceps) and muscles (scapula and Quadriceps) in each training session during a regular training program in Table 1 show include a week, 5 times the number of sets of 8 to 12 and the rest 1 minute between sets and exercises at the end of each group of muscles, stretching of the muscle were performed at the end of each session 10 minutes to cool down that includes movements stretching - 5 minute cardio exercise (Jagyng, etc.) were performed. [4]

Table 1: Examples of training club Parham Shiraz

C	B	A
Cusp of the 10 × 4	Shoulder barbell front 10 × 4	Barbell bench press 4 × 6-8 × 10
Row 10 × 3	Posted Side 8 × 3	dumbbell chest 8 × 3
Bridge over dumbbell 10 × 3	Seated dumbbell shoulder 9 × 10	Chest halter top 8 × 10-4 × 6
Biceps wiring 10 × 4	Cole barbell 8 × 4	Dumbbell chest below 8 × 3
Biceps Haltrlary 10 × 3	Hugh static 12 × 4	Triceps Press tight 10 × 4
dumbbell biceps 10 × 3	Hugh slept 9 × 4	Class Over 8 × 3
Treadmill 15 minutes.	Front feet 9 × 4	Lying barbell triceps 10 × 4
Abdomen and belly sliding Baryks 25 × 5	Instep 9 × 4	Triceps single wire at 10 × 3
Abdomen and belly sliding Baryks 25 × 5	Fillets 1 × 3	The abdomen 30 × 3

7. WEIGHT CHANGE SUBJECTS

The change in weight training group is shown in Table 2. As can be seen, the results of the t-test showed no significant change in weight during the study period of resistance training group is created.

Table 2. The change in weight before and after exercise training group

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/13	9	1/6	78/1 ± 7/5	79/1 ± 7/1	Body weight (kg)

The weight change of CLA supplementation + exercise group are shown in Table 3. As can be seen, the t-test results show that during the study period, the mean weight of CLA supplementation + exercise group had significantly decreased. [5]

Table 3. Changes in body weight of group exercise + CLA supplementation before and after training

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/001	9	6/8	81/5 ± 9/6	84/7 ± 10/5	**Body weight (kg)**

Results of t-test showed that the weight loss supplement CLA + exercise group was significantly higher than the exercise group (P=0.009 and the t = -2.9). The change in weight between the two groups is presented in Figure 1.

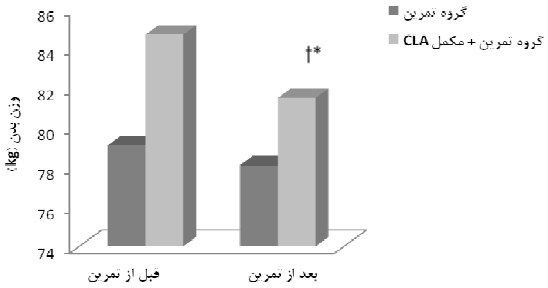

Figure 1. Weight changes in both groups
* Significant difference between the pre-test at P<0/05
† Significant difference between the two groups at P<0/05

CHANGES IN BMI SUBJECTS

The changes in body mass index in the exercise group are shown in Table 4. As can be seen, the results of the t-test showed no significant change in BMI during the study group did not exercise.

Table 4. The rate of change in body mass index before and after the exercise training group

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/13	9	1/6	25/2 ± 2/6	25/5 ± 2/5	**Body weight (kg)**

The changes in body mass index group exercise + CLA supplementation has been shown in Table 5. As can be seen, the t-test results show that during the period of the study, body mass index in practice + CLA supplementation has significantly decreased. [6]

Table 5. Changes in body mass index of CLA supplementation + exercise group before and after training

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/001	9	6/8	25/2 ± 2/4	26/2 ± 2/7	**BMI (kg m)**

Independent t-test results showed reductions in body mass index, exercise + CLA supplementation significantly higher than the group practice (P = 0.01 and t = -7.2). The changes in body mass index between the two groups is presented in Figure 2.

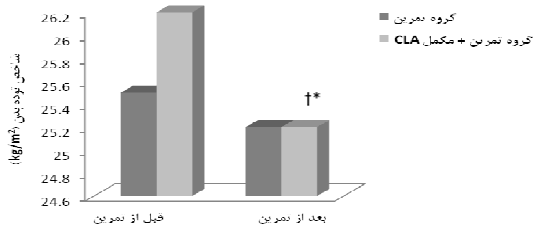

Figure 2. The change in body mass index in both groups
* Significant difference between the pre-test at P<0/05
† significant difference between the two groups at P<0/05

CHANGES IN PERCENT BODY FAT

Suppose R: eight weeks of resistance training has a significant impact on reducing fat.
Null: eight weeks of resistance training has a significant effect on reducing fat.
The change in the percentage of fat in the exercise group are shown in Table 6. As can be seen, the results of the t-test showed no significant change during the study period, the percentage of fat in the exercise group did not. Therefore, the null hypothesis and research hypothesis is rejected. [7]

Table 6. Changes in fat levels before and after the exercise training group

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/1	9	1/6	16/6 ± 4/8	18/03 ± 3/9	**Fat**

Suppose R: eight weeks of CLA reduces fat and resistance training has a significant impact.
Null: eight weeks of CLA reduces fat and resistance training did not significantly change.
The changes in fat CLA supplementation + exercise group are shown in Table 7. As can be seen, the t-test results show that during the investigation period, the amount of fat in the exercise group + CLA supplementation has significantly decreased. Therefore, the null hypothesis is rejected and the investigation will be accepted. [8]

Table 7. Changes in fat content of CLA supplementation + exercise group before and after training

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/001	9	10/3	17/5 ± 5/1	19/6 ± 5/4	**Fat**

Suppose R: No significant differences between the two groups in reducing fat and practice exercises with CLA consumption there.

Null: no significant difference between practice and exercise to reduce fat with no CLA intake. Results of t-test showed a reduction in the percentage of fat in the group exercise + supplementation with CLA reduces fat in the exercise group was not significant (P = 0.3 and t = -0.9). Therefore, the null hypothesis and research hypothesis is rejected. The changes in fat content between two groups in Figure 4-3 is presented. [9]

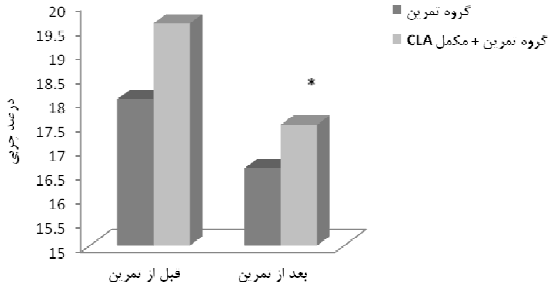

Figure 3. The mean changes in body fat in both groups
* Significant difference between the pre-test at P<0/05

CHOLESTEROL SUBJECTS

Suppose R: eight weeks of resistance training has a significant impact on reducing cholesterol.
Null: Eight weeks of resistance training in lowering cholesterol levels did not significantly change.
The amount of cholesterol in the exercise group are shown in Table 8. As can be seen, the results of the t-test showed no significant change during the study period in the exercise group is not cholesterol. Therefore, the null hypothesis and research hypothesis is rejected.

Table 8. Changes in cholesterol levels before and after the exercise training group

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/6	9	0/4	136/5 ± 37/1	139/7 ± 38/7	**Cholesterol (mg / dl)**

Suppose R: eight weeks of resistance training on the cholesterol-lowering effects of CLA and significant.
Null: Eight weeks of CLA consumption and resistance exercise on cholesterol lowering effect is not significant.
Cholesterol changes CLA supplementation + exercise group are shown in Table 9. Therefore, the null hypothesis and research hypothesis is rejected. [10]

Table 9. Changes in cholesterol levels of CLA supplementation + exercise group before and after training

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/09	9	1/9	164/6 ± 48/3	186/06 ± 60/9	**Cholesterol (mg / dl)**

Suppose R: No significant differences between the two groups in reducing cholesterol and exercise training is associated with the consumption of CLA.

Null: no significant difference between exercise and exercise to lower cholesterol with no CLA intake.

Results of t-test showed that cholesterol reduction supplement CLA + exercise group with no significant reduction of cholesterol in the exercise group (P = 0.1 and t = -1.3). Therefore, the null hypothesis and research hypothesis is rejected. Changes in cholesterol levels between the two groups is presented in Figure 4.

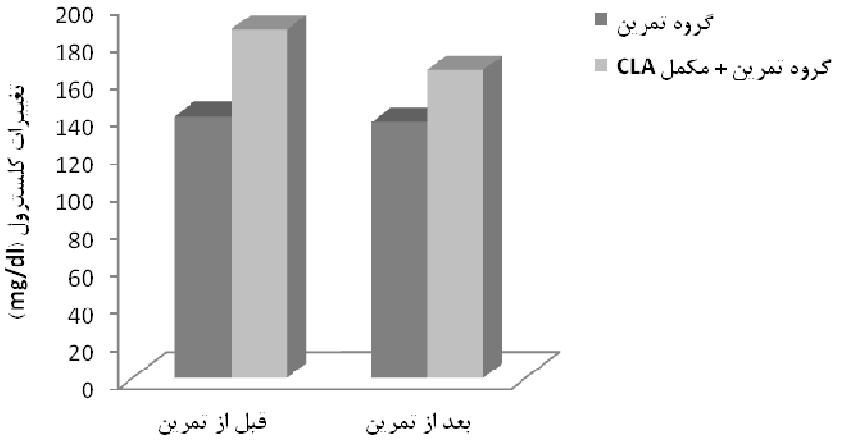

Figure 4. Changes in cholesterol levels in the two groups.

CHANGES IN TRIGLYCERIDES SUBJECTS

Suppose R: eight weeks of resistance training has a significant effect on lowering triglycerides. Null: Eight weeks of resistance training in lowering triglyceride levels did not significantly change. The changes in triglycerides exercise group are shown in Table 10. As can be seen, the results of the t-test showed no significant change in triglycerides during the research training group is created. Therefore, the null hypothesis and research hypothesis is rejected. [11]

Table 10. Changes in triglyceride levels before and after the exercise training group

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/2	9	-1/1	130/9 ± 38	127/7 ± 33/4	**Cholesterol (mg / dl)**

Suppose R: eight weeks of CLA and resistance training has a significant effect on lowering triglycerides. Null: eight weeks of CLA and resistance training in lowering triglyceride levels did not significantly change.

Changes in triglycerides CLA supplementation + exercise group are shown in Table 11. As can be seen, the results of the t-test showed no significant change in triglycerides during the research training group + CLA supplements have been created. Therefore, the null hypothesis and research hypothesis is rejected. [12]

Table 11. Changes in triglyceride levels of CLA supplementation + exercise group before and after training

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/1	9	1/5	131/9 ± 49/1	154/6 ± 48/3	**Cholesterol (mg / dl)**

Suppose R: No significant differences between training and practice in reducing triglyceride levels are associated with the consumption of CLA.

Null: no significant difference between the two groups in reducing triglycerides and practice exercises with CLA consumption there.

Results of t-test showed a decrease of triglycerides in practice + CLA supplementation to reduce triglycerides in the exercise group was not significant (P = 0.09 and t = -1.7). Therefore, the null hypothesis and research hypothesis is rejected. Changes in triglyceride levels between the two groups is presented in Figure 5.

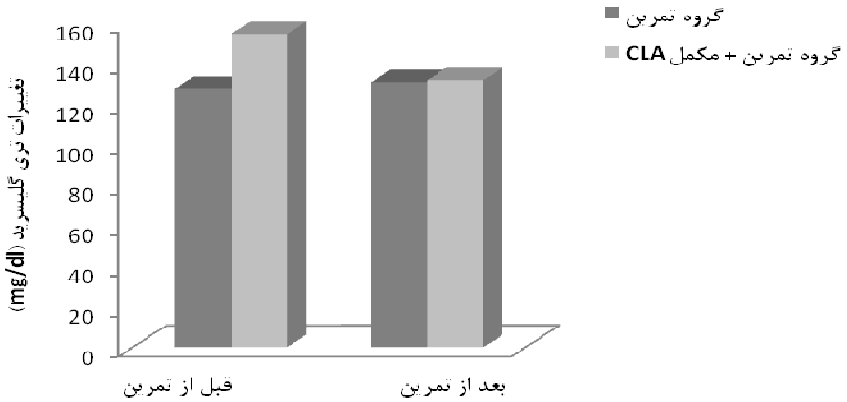

Figure 5. Changes in triglyceride levels in the two groups.

CHANGES IN LDL SUBJECTS

Suppose R: eight weeks of resistance training has a significant effect on reducing LDL.

Null: eight weeks of resistance training has a significant effect on reducing LDL.

LDL changes in exercise group are shown in Table 12. As can be seen, the results of the t-test showed no significant change in LDL during the research training group is created. Therefore, the null hypothesis and research hypothesis is rejected.

Table 12. Changes in LDL levels before and after the exercise training group

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/8	9	0/2	72/6 ± 25/7	73/3 ± 26/8	**Cholesterol (mg / dl)**

Suppose R: eight weeks of CLA and resistance training has a significant effect on reducing LDL.

Null: eight weeks of resistance training in lowering LDL CLA and no significant effect.

LDL changes CLA supplementation + exercise group are shown in Table 13. As can be seen, the results of the t-test showed no significant change during the study groups in LDL group exercise + CLA supplements have been created. Therefore, the null hypothesis and research hypothesis is rejected. [13]

Table 13. Changes in LDL levels of CLA supplementation + exercise group before and after training

Significant level.	Degrees of freedom	Value of t	After practice	Before practice	Variables
0/8	9	-0/1	96/2 ± 48/3	94/7 ± 35/1	**LDL(mg/dl)**

Suppose R: No significant differences between groups in LDL reduction and exercise training is associated with the consumption of CLA.

Null: no significant difference in LDL reduction between exercise and exercise with no CLA intake. Results of t-test showed that CLA supplementation to reduce the amount of LDL reduction in LDL + workout in the exercise group was not significant (P = 0.8 and t = n0.2). Therefore, the null hypothesis and research hypothesis is rejected. Figure 6 presents the changes in LDL groups.

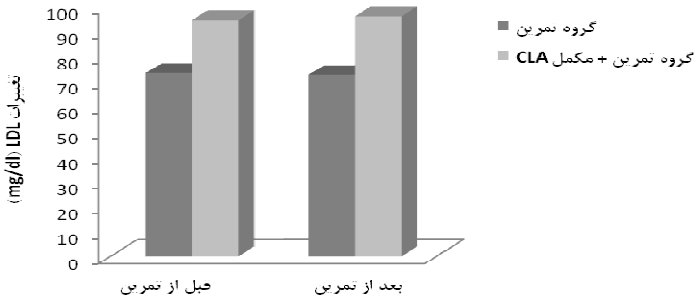

Figure 6. Changes in LDL levels in the two groups..

8. CONCLUSIONS

The results of the use of conjugated linoleic acid on body composition and resistance training athletes in the clubs of the city Parham showed eight weeks of CLA supplementation and resistance training significantly decreased body weight, body mass index and body fat percentage in the vitamin + exercise is to practice group. The results showed statistically significant differences between the two groups. According to the results, weight, body mass index and percent body fat significantly decreased in the vitamin + exercise. Various studies have shown that supplementation of CLA on body weight after about 5.0 to 3.5 kg reduced. The results of the effect of supplementation with conjugated linoleic acid on lipid profiles showed that eight weeks of CLA supplementation significantly impact the club Parham Brklstrvl Shiraz, triglycerides, low-density lipoprotein, high-density lipoprotein density lipoprotein no small allotment. Statistically significant differences were observed between the two groups. Is.

And at the end the following suggestions for future research are as follows:

1. Since the dose range of conjugated linoleic acid can vary according to weight, this can be done with regard to this factor.
2. This is done with more time. Long may this study, different aspects of the effect of CLA supplementation on body manifest?
3. The research conducted with participants of all ages

REFERENCCS

1. Blight, S, Jafari, A., and Azerbaijan, M. (2011). Long-term effects of resistance training on Dypvnkytn levels and lipid profiles in obese men, Razi Journal of Medical Sciences, 18
2. abrahymy aromas, with industrial, M., and Khodabakhshi, M. (2011). The relationship between body composition, body mass index (BMI), anaerobic power and Vo2max volleyball elite in academia, the National Congress of exercise physiology and management.
3. asghry, S, M, daddy Begay, honor, M. Hassanzadeh, C, and Mazooji, n. (2010). The effect of supplementation with conjugated linoleic acid and omega-3 fatty acids and esters of some inflammatory markers of oxidative stress in atherosclerosis. Journal of Food Resources, 4, 35, 44.
4. atmad, s. And a descendant of Ishmael, n. (2009) Effect of resistance training on body composition and serum lipids anterior muscles students of Islamic Azad University of Sanandaj, Kurdistan University of Medical Sciences Journal, 14, 28-20.
5. baqry, H., Abdelwahab, M., Raji, c., J., M., Faghihzadeh, S., Soltani, G. (2010) Effects of progressive resistance training on strength increase due to the lower and upper limb hair increase of the activities of daily living in elderly men, modern Rehabilitation, Faculty of Rehabilitation Tehran University of Medical Sciences, 4 (1 and 2).
6. t Darestani clay, a., Hossein Panahi, F., Guidance, M., Amiri, g., Darestani s, r. And tahbaz, p. (2010) Effect of conjugated linoleic acid supplementation on glucose, lipid pattern and insulin resistance in postmenopausal women, Research (Journal of Medicine), martyr Beheshti University of Medical Sciences, 34 (1), 26-34.
7. jfry, A., S, S., Mentions, and. And Malekirad, AS. (2012) Comparison of static and dynamic effects of resistance training on plasma lactate some performance indicators of cardiovascular and peripheral blood leukocytes of healthy women, Journal of Shahrekord University of Medical Sciences, 14 (1), 76-66.
8. hsyny Kakhk, S., Sharif Moghaddam, A., Hamedinia, M. And Sadat Zrnyv., D. (2011), comparing with traditional strength training, strength training and muscle performance and endurance, cardiovascular artery disease in young girls, Sports Science, 10, 114-95.
9. s·hyly, n., Gaeini, AS. And Surrey, and. (2005) Effect of resistance training on systemic inflammatory markers in older men, Olympic Quarterly, 4 (48).
10. shadman, J., Rastmnsh, S., Guidance, M., Taliban, F., Bliss, n., Tahbaz, p. The altar, the. (2005) The effect of CLA supplementation on insulin and indicators Glysymy Brmqavmt patients with type 2 diabetes, Journal of Endocrinology and Metabolism, martyr Beheshti University of Medical Sciences and Health Services, 11 (2), 142-135.
11. upbeat, J., Rastmnsh, S., Guidance, M., Taliban, F. (2005) The effect of conjugated linoleic acid supplementation Brapvprvtyyn B and malondialdehyde in patients with type 2 diabetes, Prbvlysm Poe's journal Endocrinology, University medical and Health Services - health martyr Beheshti, 11 (4), 383-377.
12. mhmdy, S., President Dhrshyd, k. God Moradpour, M. (2011) compared the effects of resistance training, endurance and combination on lipid profiles in middle-aged men - athletes, Journal of Kurdistan University of Medical Sciences, 16, 36-26.

13. qrakhanlv, R., Saremi, AS., Amydfr, K., East, SA. Readings, M. (2004) Effect of resistance training on serum myostatin levels, testosterone, and cortisol in young men, Olympic Quarterly, 3 (43).

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Figure 3: Sead Hesam Bostani in the club Parham Shiraz