

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

03 Jun 2026

### The effect of glutamine supplementation on serum levels of Adiponectine and TNF $\alpha$ after exhaustive exercise in young males

#### Protocol summary

##### Summary

Objectives: Glutamine has antioxidant properties and is used for aminoacids, proteins, nucleotides and other biological molecules synthesis. This study is designed to evaluate the effect of glutamine supplementation on adiponectin and TNF alpha concentration after exhaustive exercise.

Design: 30 healthy male students will be selected in both groups (15 controls and 15 experiments) at age 30-18 years. 0.3 gr glutamine in per kg weight of body with 25 gr sweat and 250 cc water will be taken to experiment group and 25 gr sweat with 250 cc water taken to control group for two weeks. Setting and Conduct: Fasting blood samples are taken for both groups at the beginning and end of the supplementation. Exhaustive exercise session will be given to both groups at the 15th day. Fasting blood samples are taken at the end of exhaustive exercise. Blood samples will be used to test of biochemical and inflammatory factors. Participants including major eligibility criteria: Young healthy males with moderate physical activity in 18-30 years old. Exclusion criteria for participant selection, including: Individuals with diseases; smoking; alcoholism and other supplements consumption; having certain dietary; professional training; sedentary and having 25 and less than 18.5 kg.m<sup>2</sup>. Interventions: glutamine and exhaustive exercise. Variables: Adiponectin, Malondialdehyde, Tumor necrosis factor-alpha, hs-CRP.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2016092129895N1**  
Registration date: **2016-10-13, 1395/07/22**  
Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2016-10-13, 1395/07/22

##### Registrant information

###### Name

leila mollazadeh

###### Name of organization / entity

Ardabil University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 44 3277 0924

###### Email address

le.mollazadeh@arums.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

Vice Chancellor for Research Ardabil University of Medical Sciences

##### Expected recruitment start date

2016-04-20, 1395/02/01

##### Expected recruitment end date

2016-07-20, 1395/04/30

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

The effect of glutamine supplementation on serum levels of Adiponectin and TNF $\alpha$  after exhaustive exercise in young males

##### Public title

The effect of glutamine supplementation on serum levels of Adiponectin and TNF $\alpha$  after exhaustive exercise in young males

##### Purpose

Prevention

### **Inclusion/Exclusion criteria**

Inclusion criteria: Young healthy males with moderate physical activity in 18-30 years old. Exclusion criteria: Individuals with any diseases; smoking; alcoholism and other supplements consumption; having certain dietary; professional training; sedentary and having BMI over 25 and less than 18.5 kg.m<sup>2</sup>

### **Age**

From **18 years** old to **30 years** old

### **Gender**

Male

### **Phase**

2-3

### **Groups that have been masked**

*No information*

### **Sample size**

Target sample size: **30**

### **Randomization (investigator's opinion)**

Randomized

### **Randomization description**

### **Blinding (investigator's opinion)**

Double blinded

### **Blinding description**

### **Placebo**

Not used

### **Assignment**

Parallel

### **Other design features**

## **Secondary Ids**

empty

## **Ethics committees**

### 1

#### **Ethics committee**

##### **Name of ethics committee**

Ethic Committee of Ardabil University of Medical Sciences

##### **Street address**

Ethic Committee of Ardabil University of Medical Sciences, Vice Chancellor for Research, Ardabil University of Medical Sciences, Ardabil University of Medical Sciences, Daneshgah Avenue, Ardabil, Iran

##### **City**

Ardabil

##### **Postal code**

5318985991

##### **Approval date**

2016-02-09, 1394/11/20

##### **Ethics committee reference number**

IR.ARUMS.REC.1394.112

## **Health conditions studied**

### 1

#### **Description of health condition studied**

Young healthy males

### **ICD-10 code**

Z02.5

### **ICD-10 code description**

Examination for participation in sport

## **Primary outcomes**

### 1

#### **Description**

Exhaustive exercise time

#### **Timepoint**

At the end of exercise

#### **Method of measurement**

With signs and symptoms of exhaustion

## **Secondary outcomes**

### 1

#### **Description**

Total cholesterol

#### **Timepoint**

At the beginning of intervention, previous of exercise

#### **Method of measurement**

Spectrophotometry

### 2

#### **Description**

Triglyceride

#### **Timepoint**

At the beginning of intervention, previous of exercise

#### **Method of measurement**

Spectrophotometry

### 3

#### **Description**

HDL-cholesterol

#### **Timepoint**

At the beginning of intervention, previous of exercise

#### **Method of measurement**

Spectrophotometry

### 4

#### **Description**

hsCRP

#### **Timepoint**

At the beginning of intervention, previous and after of exercise

#### **Method of measurement**

ELISA

### 5

#### **Description**

Adiponectin

#### **Timepoint**

At the beginning of intervention, previous and after of

exercise

**Method of measurement**

ELISA

**6**

**Description**

height

**Timepoint**

At the beginning of intervention

**Method of measurement**

Stadiometers

**7**

**Description**

Malondialdehyde

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**8**

**Description**

weight

**Timepoint**

At the beginning of intervention

**Method of measurement**

Digital scales

**9**

**Description**

Total antioxidant capacity

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**10**

**Description**

Tumor necrosis factor-alpha

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**11**

**Description**

LDL-cholesterol

**Timepoint**

At the beginning of intervention, previous of exercise

**Method of measurement**

Spectrophotometry

**12**

**Description**

Matrix metalloproteinase-2

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**13**

**Description**

Matrix metalloproteinase-9

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**14**

**Description**

Interlukine-6

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**15**

**Description**

Leptin

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**16**

**Description**

Oxidated LDL

**Timepoint**

At the beginning of intervention, previous and after of exercise

**Method of measurement**

ELISA

**Intervention groups**

**1**

**Description**

Given 0.3 gr Glutamine in per Kgr weight of body with 25 gr sweat and 250 cc water for 14 days and once exhaustive exercise for intervention group

**Category**

Other

2

**Description**

Given 25 gr sweat and 250 cc water for 14 days and once exhaustive exercise for control group

**Category**

Placebo

**Recruitment centers**

1

**Recruitment center**

**Name of recruitment center**

Vice Chancellor for Research Ardabil University of Medical Sciences

**Full name of responsible person**

Dr Abbas Naghizade-baghi

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Vice Chancellor for Research Ardabil University of Medical Sciences, Ardabil University of Medical Sciences, Daneshgah Avenue, Ardabil, Iran.

**City**

Ardabil

**Sponsors / Funding sources**

1

**Sponsor**

**Name of organization / entity**

Ardabil University of Medical Sciences

**Full name of responsible person**

shahram habibzadeh

**Street address**

Faculty of Medicine, Ardabil University of Medical Sciences, Daneshgah Avenue, Ardabil, Iran.

**City**

Ardabil

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Ardabil University of Medical Sciences

**Proportion provided by this source**

100

**Public or private sector**

empty

**Domestic or foreign origin**

empty

**Category of foreign source of funding**

empty

**Country of origin**

**Type of organization providing the funding**

empty

**Person responsible for general inquiries**

**Contact**

**Name of organization / entity**

Ardabil University of Medical Sciences

**Full name of responsible person**

Leila Mollazadeh

**Position**

Student of MSc

**Other areas of specialty/work**

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**Position**

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**Sharing plan**

**Deidentified Individual Participant Data Set (IPD)**

*empty*

**Study Protocol**

*empty*

**Statistical Analysis Plan**

*empty*

**Informed Consent Form**

*empty*

**Clinical Study Report**

*empty*

**Analytic Code**

*empty*

**Data Dictionary**

*empty*