

Clinical Trial Protocol

Iranian Registry of Clinical Trials

03 Jun 2026

The effect of glutamine supplementation on serum levels of Adiponectine and TNF α 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.m². 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

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Name of organization / entity

Ardabil University of Medical Sciences

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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 α after exhaustive exercise in young males

Public title

The effect of glutamine supplementation on serum levels of Adiponectin and TNF α 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.m²

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

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Postal code

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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

Street address

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

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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

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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

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Full name of responsible person

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Position

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Other areas of specialty/work

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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