

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

The effects of pomegranate seed (PSO) with resistance exercise on insulin resistance and cardiovascular risk factors in non-athletic men

Protocol summary

Summary

Some cell culture and animal studies have reported that pomegranate seed (PSO) have several health related benefits, but there is not enough information on the impact combined with exercise. Therefore, in this study was considered the effect of supplementation with pomegranate seed oil with resistance exercise on insulin resistance and lipid profile in non-athletes men. In a semi-experimental study with a double-blind randomized 14 non-athletes male were divided into two groups: exercise+supplementation (n = 7) and training+placebo (n = 7). Both groups performed resistance training program for 4 weeks (3 sessions per week). The experimental group consumed 2 capsules of 400 mg of pomegranate seed oil and the control group received 2 placebo. Glucose, fasting insulin, total cholesterol, triglycerides, LDL-C, HDL-C, were measured at the beginning and end of the study. Insulin resistance was estimated by the homeostasis Formula (HOMA-IR).

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016092730023N1**

Registration date: **2017-02-10, 1395/11/22**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-02-10, 1395/11/22

Registrant information

Name

Khalilullah Moonikh

Name of organization / entity

Rajai Teacher Training University

Country

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Recruitment status

Recruitment complete

Funding source

Researchers

Expected recruitment start date

2016-12-10, 1395/09/20

Expected recruitment end date

2016-12-20, 1395/09/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of pomegranate seed (PSO) with resistance exercise on insulin resistance and cardiovascular risk factors in non-athletic men

Public title

The effects of pomegranate seed (PSO) with resistance exercise on insulin resistance and cardiovascular risk factors in non-athletic men

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion Criteria: Healthy young men with no previous record of any specific drug use; without experience of regular physical activity in two year before beginning of the study. Exclusion Criteria: Unhealthy; Doing regular exercise during the last two years.

Age

From **21 years** old to **23 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **14**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Double blinded

Blinding description**Placebo**

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Sport Sciences Research Institute of IRAN

Street address

NO 3, 5th alley, Miremad Ave, Tehran

City

Tehran

Postal code**Approval date**

2015-11-04, 1394/08/13

Ethics committee reference number

IR.SSRI.IREC.1395.20

Health conditions studied**1****Description of health condition studied**

Obesity

ICD-10 code

E66

ICD-10 code description

Obesity

Primary outcomes**1****Description**

Fasting insulin

Timepoint

Before and after 4 weeks

Method of measurement

Elisa

Secondary outcomes**1****Description**

Lipid profiles (total cholesterol, triglycerides, and low high-density cholesterol)

Timepoint

Before and after 4 weeks

Method of measurement

Enzymatic

2**Description**

Insulin resistance index

Timepoint

Before and after 4 weeks

Method of measurement

Elisa

Intervention groups**1****Description**

400 mg doses of 2 capsules of pomegranate seed oil + RT

Category

Treatment - Drugs

2**Description**

2 + placebo control group resistance training

Category

Treatment - Drugs

Recruitment centers**1****Recruitment center****Name of recruitment center**

Rajai Teacher Training University

Full name of responsible person

Fereshte Shahidy

Street address

Rajai Teacher Training University, Lavizan, Tehran

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

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Full name of responsible person

Khalil ollah Moonikh

Street addressRajai Teacher Training University, St.Shabanlo,
Lavizan, Tehran**City**

Tehran

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Rajai Teacher Training University

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**

Rajai Teacher Training University

Full name of responsible person

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PhD student of exercise physiology

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Web page address**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*