Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

Iran (Islamic Republic of)

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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 Institue 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
City
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Rajai Teacher Training University

Full name of responsible person
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Rajai Teacher Training University, St.Shabanlo, Lavizan, Tehran
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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
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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