Clinical Trial Protocol
Iranian Registry of Clinical Trials

04 Jul 2026

Effect of 10-week progressive resistance training and ginger herbal Medicine intake on blood lipids Profiles, oxidative and inflammatory markers in obese men

Protocol summary

Summary

Aim: This study will conduct to determine the effect of 10-week progressive resistance training and ginger supplementation on physical fitness, body composition, lipid profiles, oxidative stress and inflammatory markers in obese men. Methods: Thirty-two obese male (aged 18–32 years, BMI≥ 30 Kg/m2) in a randomized double-blind design, will allocate equally into four homogeneous groups: PL (without training plus Dextrose intake); RTPL (training plus Dextrose); GI (without training plus Ginger intake), and RTGI (training plus ginger intake). The subjects will intake 1 g/d ginger (GI and RTGI) or Dextrose (PL and RTPL) during resistance training protocol (3 sessions/week; 8 exercises/session) for 10 weeks. In both groups, physical fitness (maximal isometric strength, explosive power, and Flexibility of lower limb), body composition (BMI, Fat%, FFM, WHR, WC), blood lipid profile, oxidative stress (malondialdehyde and antioxidant capacity: MDA & TAC), and inflammatory indicators (Peripheral blood leukocyte count; C-reactive protein: CRP; Interleukin-6: IL6; Interleukin-10: IL-10; Adiponectin; and homocysteine: tHcy) along with blood Testosterone and Cortisol concentration will determine 48 hours before and after supplementation and training protocol.

General information

Acronym

GingerTra2011

IRCT registration information

IRCT registration number: **IRCT201008304663N1**
Registration date: **2012-08-05, 1391/05/15**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2012-08-05, 1391/05/15

Registrant information

Name

Afshar Jafari

Name of organization / entity

University of Tabriz

Country

Iran (Islamic Republic of)

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Email address

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Recruitment status

Recruitment complete

Funding source

The Research will funded by Mahabad Branch Islamic Azad University.

Expected recruitment start date

2009-03-21, 1388/01/01

Expected recruitment end date

2010-09-23, 1389/07/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of 10-week progressive resistance training and ginger herbal Medicine intake on blood lipids Profiles, oxidative and inflammatory markers in obese men

Public title

Effect of training and ginger on obesity

Purpose

Basic scienece

Inclusion/Exclusion criteria

Inclusion criteria: Males; non-athletes; Obese; aged 18-35 years; BMI >30 Kg/m2; aerobic power < 45 ml/kg/min; without any anti-inflammatory and medical drugs such as caffeine>100 mg/day (during 6 months prior to the study). Exclusion criteria: Smoking; chronic diseases; injuries; and uncontrolled intake of oxidative supplements; uncontrolled intake of anti-inflammatory drugs and stimulants (during the period).

Age

From **18 years** old to **32 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **32**

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

Tabriz University of Medical Sciences

Street address

Golgasht St. Daneshgah St. Tabriz, East Azerbaijan, Iran.

City

Tabriz

Postal code

Approval date

2010-08-30, 1389/06/08

Ethics committee reference number

8928

Health conditions studied

1

Description of health condition studied

Supplementation and Training combination for obesity treatment

ICD-10 code

E66

ICD-10 code description

Obesity

Primary outcomes

1

Description

Serum Malondialdehyde level

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by thiobarbituric acid reactive substance (TBARS) and spectrophotometer.

2

Description

Serum Total antioxidant capacity

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by FRAP method.

3

Description

Serum cortisol level

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by radioimmunoassay.

4

Description

Peripheral blood lipids profile

Timepoint

48 hours before and after a 10-week period.

Method of measurement

The lipid profile will determine by serum levels of total cholesterol (TC), high-density cholesterol (HDL-C), low-density cholesterol (LDL-C) and triglycerides (TG) using the enzymatic method.

5

Description

Serum Adiponectin level

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by ELISA methods with commercial kits.

6

Description

Serum tumor necrosis factor alpha (TNF-alpha) level

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by ELISA methods with commercial kits.

7

Description
Serum interleukin-6 (IL-6) level
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by ELISA methods with commercial kits.

8

Description
Serum C-reactive protein level
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by immunoturbidometric assay.

9

Description
Serum interleukin-10 (IL-10) level
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by ELISA methods with commercial kits.

10

Description
Fasting serum total homocysteine (tHcy)
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determined by enzymatic commercial kits.

11

Description
Serum testosterone level
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by radioimmunoassay.

12

Description
Peripheral blood leukocyte count
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by automatic analyzer.

Secondary outcomes

1

Description
Serum Growth Hormone Level
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by radioimmunoassay.

2

Description
Complete blood count (CBC)
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by automatic analyzer.

3

Description
Fasting Blood Sugar (FBS)
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by the enzymatic method.

4

Description
Insulin resistance
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by HOMA formula.

5

Description
Body fat%
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine with Skin-fold test (caliper and ACSM’s Formula).

6

Description
Hand grip strength
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by Dynamometry.

7

Description
Lower limb maximal isometric strength
Timepoint
48 hours before and after a 10-week period.
Method of measurement
It will determine by Dynamometry.

8

Description
One Repetition Maximum in eight resistance exercises
Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by the Brzycki prediction equation.

9

Description

Lower limb flexibility

Timepoint

48 hours before and after a 10-week period.

Method of measurement

Sit and reach test (wells SRT)

10

Description

Lower limb explosive power

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by Sargent vertical jump test.

11

Description

Waist circumstance (WC)

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by flexible tape.

12

Description

Waist-Hip Ratio (WHR)

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will Measure by a flexible tape and the ratio of waist circumference to the hip circumference.

13

Description

Serum Leptin level

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by ELISA methods with commercial kits.

14

Description

Serum ghrelin levels

Timepoint

48 hours before and after a 10-week period.

Method of measurement

It will determine by ELISA methods with commercial kits.

Intervention groups

1

Description

The subjects in RTPL group (training plus Plecbo) will intake 1 g/d Dextrose during 10-week resistance training (3 sessions/week; 8 exercises/session, with 50-85% 1RM).

Category

Other

2

Description

The subjects in GI group (Supplement without training) will intake 1 g/d Ginger for 10 weeks.

Category

Treatment - Drugs

3

Description

The subjects in RTGI group (training plus supplement) will intake 1 g/d ginger during 10-week resistance training (3 sessions/week; 8 exercises/session, with 50-85% 1RM).

Category

Other

4

Description

The subjects in PL group (Placebo without training) will intake 1 g/d Dextrose for 10 weeks.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Islamic Azad University (Mahabad Branch)

Full name of responsible person

Dr Sirvan Atashak

Street address

Department of Physical Education and Sports Sciences, Mahabad Branch, Islamic Azad University, Kuy-e-Daneshgah, Mahabad, West Azerbaijan, Iran.

City

Mahabad

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University (Mahabad Branch)

Full name of responsible person

Dr Mahmod Poor Yousef

Street address

Mahabad Branch Islamic Azad University, Kuy-e-

Daneshgah, Mahabad, West Azerbaijan,Iran.

City

Mahabad

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Islamic Azad University (Mahabad Branch)

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

Person responsible for scientific inquiries

Contact

Name of organization / entity

University of Tabriz

Full name of responsible person

Dr Afshar Jafari

Position

PhD/Associate Professor of Molecular Exercise Physiology

Other areas of specialty/work

Street address

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City

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Web page address

Person responsible for updating data

Contact

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