

Clinical Trial Protocol

Iranian Registry of Clinical Trials

24 Jul 2026

Comparison of the effects of aerobic and resistance training on serum levels of osteocalcin, adipocytes, blood biochemical parameters and body composition in overweight young men

Protocol summary

Study aim

Comparison of the effects of aerobic and resistance training on serum levels of osteocalcin, adipocytes, biochemical parameters of blood and body composition in overweight young men

Design

In this research, 40 overweight men will be allocated into three groups; Aerobic training (13 people), resistance training (13 people) and control group (n=14).

Settings and conduct

The present study is a semi-experimental study among men with overweight in Ahar. The subjects will participate in the exercise training program for 8 weeks. Blood sampling is performed after 12 hours of fasting and before and after eight weeks of exercise training.

Participants/Inclusion and exclusion criteria

Inclusion criteria: over weight young men, age range of 28-35 years

Intervention groups

Intervention group 1: Aerobic training with 60-8% of maximum heart rate intensity, three times per week for eight weeks. Intervention group 2: Resistance training with 50-75% of 1RM intensity, three times per week for eight weeks. Control group: Without intervention

Main outcome variables

Weight loss, fasting blood glucose , insullin, triglyceride, HbA1c, leptin, adiponectin

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180226038876N1**

Registration date: **2018-08-21, 1397/05/30**

Registration timing: **retrospective**

Last update: **2018-08-21, 1397/05/30**

Update count: **0**

Registration date

2018-08-21, 1397/05/30

Registrant information

Name

Mehdi Rostamizadeh

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 41 4433 4388

Email address

mehdirostami2352@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2017-12-22, 1396/10/01

Expected recruitment end date

2018-01-10, 1396/10/20

Actual recruitment start date

2017-12-22, 1396/10/01

Actual recruitment end date

2018-01-10, 1396/10/20

Trial completion date

empty

Scientific title

Comparison of the effects of aerobic and resistance training on serum levels of osteocalcin, adipocytes, blood biochemical parameters and body composition in overweight young men

Public title

The effects of aerobic and resistance training on blood biochemical parameters

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Over weight men Not being athlete Non disorders Not using medicines or sports and dietary supplements

Exclusion criteria:

Those aged more than 35 Those who have heart failure or kidney failure Persons with physical and moving limitations

Age

From **28 years** old to **35 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Actual sample size reached: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple randomization using sealed envelopes

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Islamic Azad Rasht University

Street address

Rasht Azad University Complex, Lacan Boulevard

City

Rasht

Province

Guilan

Postal code

5451884111

Approval date

2017-09-19, 1396/06/28

Ethics committee reference number

IR.IAU.RASHT.REC.1396.124

Health conditions studied

1

Description of health condition studied

over weight

ICD-10 code

E66.3

ICD-10 code description

Overweight

Primary outcomes

1

Description

weight lose

Timepoint

Before and after the end of interventions

Method of measurement

Digital Scale Device

2

Description

fasting blood glucose

Timepoint

Before and after the end of interventions

Method of measurement

Laboratory kits

3

Description

insullin

Timepoint

Before and after the end of interventions

Method of measurement

Laboratory kits

4

Description

HbA1c

Timepoint

Before and after the end of interventions

Method of measurement

Laboratory kits

5

Description

leptin

Timepoint

Before and after the end of interventions

Method of measurement

ELISA method

6

Description

adiponectin

Timepoint

Before and after the end of interventions

Method of measurement

7**Description**

TG

Timepoint

Before and after the end of interventions

Method of measurement

Laboratory kits

Secondary outcomes

empty

Intervention groups1**Description**

Intervention group 1: Aerobic training with 60-85% of Maximum heart rate intensity, three times per week for eight weeks.

Category

Prevention

2**Description**

Intervention group 2: Resistance training with 50-75% of 1RM intensity, three times per week for eight weeks.

Category

Prevention

3**Description**

Control group: Without intervention

Category

Lifestyle

Recruitment centers1**Recruitment center****Name of recruitment center**

Ahar Branch, Islamic Azad University

Full name of responsible person

Mehdi Rostamizadeh

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2nd Km of Ahar - Tabriz Road

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Sponsors / Funding sources1**Sponsor****Name of organization / entity**

Islamic Azad University

Full name of responsible person

Mehdi Rostamizadeh

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No. 32, Janbaz 9 alley, Mosa Kalantari St.

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

No

Title of funding source

unknown

Proportion provided by this source

0

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin**Type of organization providing the funding**

Persons

Person responsible for general inquiries**Contact****Name of organization / entity**

Islamic Azad University

Full name of responsible person

Mehdi Rostamizadeh

Position

student

Latest degree

Ph.D.

Other areas of specialty/work

Sport physiology

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

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Position

student

Latest degree

Master

Other areas of specialty/work

sport physiology

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

No more information

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available