Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 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

ELISA method

7

Description
TG
Timepoint
Before and after the end of interventions
Method of measurement
Laboratory kits

Secondary outcomes

empty

Intervention groups

1

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 centers

1

Recruitment center
Name of recruitment center
Ahar Branch, Islamic Azad University
Full name of responsible person
Mehdi Rostamizadeh
Street address
2nd Km of Ahar - Tabriz Road
City
Ahar
Province
East Azarbaijan
Postal code
5451884111
Phone
+98 41 4433 4388
Email
mehdirostami2352@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
Full name of responsible person
Mehdi Rostamizadeh
Street address
No. 32, Janbaz 9 alley, Mosa Kalantari St.
City
Ahar
Province
East Azarbaijan
Postal code
5451884111
Phone
+98 41 4433 4388
Email
mehdirostami2352@gmail.com
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
Street address
No. 32, Janbaz 9 alley, Mosa Kalantari St.
City
Ahar
Province
East Azarbaijan
Postal code
5451884111
Phone

+98 41 4433 4388

Email

mehdirostami2352@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Mehdi Rostamizadeh

Position

student

Latest degree

Master

Other areas of specialty/work

sport physiology

Street address

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

City

ahar

Province

East Azarbaijan

Postal code

5451884111

Phone

+98 41 4433 4388

Email

mehdirostami2352@gmail.com

Person responsible for updating data

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Mehdi Rostamizadeh

Position

student

Latest degree

Master

Other areas of specialty/work

sport physiology

Street address

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

City

Ahar

Province

East Azarbaijan

Postal code

5451884111

Phone

+98 41 4433 4388

Email

mehdirostami2352@gmail.com

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