Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

The effect of short-term resistance training on serum levels of irisin, parathormone and alkaline phosphatase in overweight and obese postmenopausal women

Protocol summary

Study aim
The purpose of this study is to investigate the effect of 6 weeks of resistance training on irisin, parathormone and alkaline phosphatase in sedentary postmenopausal middle-aged women

Design
The study is a randomized clinical trail with control group. 24 obese women (45-55 years, Body mass index 25-35) will be selected through purposive sampling and will randomly be divided into two intervention and control groups

Settings and conduct
The present field study is semi-experimental which will be done in Shahrkord Islamic Azad University gym. A professional coach will train the subjects and a lab technetium will take their blood samples. Blood sample will be analyzed in the university lab.

Participants/Inclusion and exclusion criteria
Inclusion criteria; 45-55 years old women; Body mass index between 25-30. Exclusion criteria: metabolic disorder

Intervention groups
Intervention group will do resistance training 3 sessions per week for 6 weeks. Control group will not participate in any exercise.

Main outcome variables
Irisin; parathormone and alkaline phosphatase

General information

Reason for update
new researches showed that 6 weeks resistance training cause more response on irisin so it has been decided to increase training duration

Acronym

IRCT registration information
IRCT registration number: **IRCT20180822040849N14**
Registration date: **2020-09-05, 1399/06/15**
Registration timing: **prospective**

Last update: **2020-09-07, 1399/06/17**
Update count: **1**

Registration date
2020-09-05, 1399/06/15

Registrant information

Name
akram jafari

Name of organization / entity
Islamic azad university shahrekord branch

Country
Iran (Islamic Republic of)

Phone
+98 38 3232 6462

Email address
mrmoradi@sku.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2020-11-20, 1399/08/30

Expected recruitment end date
2021-01-19, 1399/10/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of short-term resistance training on serum levels of irisin, parathormone and alkaline phosphatase in overweight and obese postmenopausal women

Public title
Resistance training and irisin, parathormone and alkaline phosphatase
Purpose
Basic scienece
Inclusion/Exclusion criteria
Inclusion criteria:
Age: 45-55 years old BMI 25-35 kg/m2
Exclusion criteria:
Metabolic sickness record Clinical limitations for sports activities
Age
From **45 years** old to **55 years** old
Gender
Female

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **24**
Randomization (investigator's opinion)
Randomized
Randomization description
Simple randomization by tossing a coin
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 commitee of Islamic Azad Univercity Shahrekord Branch
Street address
Rahmatieh, Islamic Azad University
City
Shahrekord
Province
Chahar-Mahal-va-Bakhtiari
Postal code
8813733441
Approval date
2020-02-05, 1398/11/16
Ethics committee reference number
IR.IAU.SHK.REC.1399.003

Health conditions studied

1

Description of health condition studied
Resistance training
ICD-10 code
Y93.B
ICD-10 code description
Activities involving other muscle strengthening exercises

Primary outcomes

1

Description
Irisin
Timepoint
Before and after 6 weeks resistance training
Method of measurement
By ELISA method

2

Description
Parathormon
Timepoint
Before and after 6 weeks resistance training
Method of measurement
By ELISA method

3

Description
Alkaline phosphatase
Timepoint
Before and after 6 weeks resistance training
Method of measurement
By Colorimetry and Spectrophotometry methods

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: 12 obese women (45-55 years, BMI 25-30) will participate in this research as intervention group. They will do resistance training 3 sessions per week for 6 weeks. Each exercise session includes 3 workout cycles including 12 stations and 8 to 10 repetition of practice in each station. These stations, respectively, include chest press, leg extension, leg flection, Underhand Cable Pull downs, Barbell Shoulder Press, Barbell Curl, Barbell Triceps, Leg Press, cross with dumbbells, sit-ups, squat, and Barbell incline Bench Press. In the first week, the intensity of the exercise will be 50% of maximum repeat, and in the next weeks, the intensity increase to 85% of maximum repeat. Body mass index measurement and blood sampling will be done in fasting, 24 hours before and 48 hours after the exercise

Category
N/A

2

Description
Control group: control group will be asked not to participate in any exercise program and keep on their regular diet during research and report any changes in their life like disease, serious stress
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Islamic Azad Univercity Shahrekord Branch
Full name of responsible person
Bahareh Banitalebi
Street address
Rahmatieh, Islamic Azad University
City
Shahrekord
Province
Chahar-Mahal-va-Bakhtiari
Postal code
8813733441
Phone
+98 38 3336 1001
Email
banitalebi57@yahoo.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
Full name of responsible person
Bahareh Banitalebi
Street address
Rahmatieh, Islamic Azad University
City
Shahrekord
Province
Chahar-Mahal-va-Bakhtiari
Postal code
8813733441
Phone
+98 38 3336 1001
Email
Banitalebi57@yahoo.com
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Islamic Azad University
Proportion provided by this source
100
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
Academic

Person responsible for general inquiries

Contact
Name of organization / entity
Islamic Azad University
Full name of responsible person
Akram Jafari
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Sport Physiologist
Street address
Rahmatieh, Islamic Azad University
City
Shahrekord
Province
Chahar-Mahal-va-Bakhtiari
Postal code
8813733441
Phone
+98 38 3336 1001
Email
Jafari.akm@gmail.com

Person responsible for scientific inquiries

Contact
Name of organization / entity
Islamic Azad University
Full name of responsible person
Akram Jafari
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Sport physiology
Street address
Rahmatieh, Islamic Azad University
City
Shahrekord
Province
Chahar-Mahal-va-Bakhtiari
Postal code
8813733441
Phone

+98 38 3336 1001
Email
Jafari.akm@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
Islamic Azad University
Full name of responsible person
Akram Jafari
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Sport physiology
Street address
Rahmatieh, Islamic Azad University
City
Shahrekord
Province
Chahar-Mahal-va-Bakhtiari
Postal code
8813733441
Phone
+98 38 3336 1001
Email
Jafari.akm@gmail.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
Yes - There is a plan to make this available
Data Dictionary
Yes - There is a plan to make this available
Title and more details about the data/document
All data
When the data will become available and for how long
6 months after data publication
To whom data/document is available
Student and academic staff
Under which criteria data/document could be used
every analyses is fine for future research
From where data/document is obtainable
Academic papers
What processes are involved for a request to access data/document
By sending email to researcher
Comments