

Clinical Trial Protocol

Iranian Registry of Clinical Trials

31 Jul 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 trial 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 technician 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 science

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 committee of Islamic Azad University
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 flexion, 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 University 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