

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

The effect of two training methods High-Intensity Interval Training (HIIT) and Aerobic continuous training (AECT) on serum levels of Meteorin-like hormone, oncostatin M and lipid profile in Overweight and obese women

Protocol summary

Study aim

Determining the effect of eight weeks of high intensity interval training (HIIT) and aerobic continuous training (AECT) on serum levels of methorine-like hormone, oncostatin M and lipid profile in overweight and obese women.

Design

Clinical trial with control group, with parallel groups, not blinded, non-random, subjects 30 overweight and obese women with an age range of 30 to 45 years.

Settings and conduct

High-intensity interval training (HIIT) will be stored in the form of (running: walking) with 100% heart rate intensity. Continuous aerobic training (AECT) will be performed as follows: in the first and second weeks of 32-block blocks will be used continuously and without rest, the third and fourth weeks of the new chain with repetition of the previous chain will be performed And from the fifth week onwards, simple hand movements will also be considered. Intensity: 60 to 70% reserve heart rate. The training place will be held in Takhti gymnasium in Marand city.

Participants/Inclusion and exclusion criteria

Inclusion criteria, female subjects, age range 30 to 45 years, overweight and obesity, lack of regular exercise for at least the last six months, no medication and supplementation, no skeletal disease and Joint, glands and hormones, cardiovascular, autoimmune and Exclusion criteria: having cardiovascular, respiratory, lumbar disc, glandular and hormonal diseases. Having regular exercise in the last six months and will be menopause.

Intervention groups

1) High-intensity interval training (8 weeks and 3 sessions per week with intensity of 100% reserve heart rate), 2) Continuous aerobic training (8 weeks and 3 sessions per week with intensity of 60 to 70% reserve

heart rate) 3) Control group (did not have a training course).

Main outcome variables

Methorine-like hormone, oncostatin M and lipid profile.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210810052133N1**

Registration date: **2021-10-07, 1400/07/15**

Registration timing: **registered_while_recruiting**

Last update: **2021-10-07, 1400/07/15**

Update count: **0**

Registration date

2021-10-07, 1400/07/15

Registrant information

Name

Shabnam Akbarzadeh

Name of organization / entity

Tabriz University

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-10-02, 1400/07/10

Expected recruitment end date

2021-12-01, 1400/09/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of two training methods High-Intensity Interval Training (HIIT) and Aerobic continuous training (AECT) on serum levels of Meteorin- like hormone, oncostatin M and lipid profile in Overweight and obese women

Public title

The effect of two training methods on obesity hormones

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Female subjects Age range 30 to 45 years Overweight and obese (body mass index greater than or equal to 28) Lack of regular exercise for at least the last six months, no medication and supplements, no skeletal and joint disease, endocrine and hormonal, cardiovascular, autoimmune, etc.

Exclusion criteria:

Having cardiovascular, respiratory, lumbar disc, glandular and hormonal diseases. Have regular exercise in the last six months Being menopausal

Age

From **30 years** old to **45 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Not randomized

Randomization description**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**

Biomedical Ethics Committee of Tabriz University

Street address

Tabriz - 29 Bahman Blvd. - University of Tabriz - Central Library and Documentation and Publishing Center

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Postal code

5166616471

Approval date

2021-08-29, 1400/06/07

Ethics committee reference number

IR.TABRIZU.REC.1400.025

Health conditions studied**1****Description of health condition studied**

Obesity

ICD-10 code

Z00-Z99

ICD-10 code description

Chapter XXI of ICD-10 (Z00-Z99)

Primary outcomes**1****Description**

Meteorin- like hormone

Timepoint

Beginning of the study (pre-test) after 12 hours of fastinag - End of the study (post-test) (48 hours after the last training session) After 12 hours of fasting

Method of measurement

Methorine-like hormone by ELISA

2**Description**

Oncostatin M

Timepoint

Beginning of the study (pre-test) after 12 hours of fastinag - End of the study (post-test) (48 hours after the last training session) After 12 hours of fasting

Method of measurement

Oncostatin M by ELISA

3**Description**

lipid profile

Timepoint

Beginning of the study (pre-test) after 12 hours of fastinag - End of the study (post-test) (48 hours after the last training session) After 12 hours of fasting

Method of measurement

lipid profile by photometric method

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1) High intensity interval training: Eight weeks (three sessions per week) Exercises will be performed in the form of (running: walking) with an intensity of 100% of the reserve heart rate.

Category

N/A

2

Description

Intervention group 2) Aerobic continuous training(AECT): Exercises will be performed for eight weeks (three sessions per week). In the first and second weeks, 32-beat blocks (complete chain) will be used continuously and without rest, in the third and fourth weeks, the new chain will be performed with repetition of the previous chain, and from the fifth week onwards, simple hand movements will be. These chains will be repeated with both feet. Exercise intensity will be 60 to 70% of the reserve heart rate.

Category

N/A

3

Description

3) Control group: will not receive any training program.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Sarah Research Lab

Full name of responsible person

Pouran Karimi

Street address

Tabriz - Ostad Shahriyar Boulevard (Chaiknar), in front of University Square, next to the General Welfare Office, Ehsan Building, first floor

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tabriz University

Full name of responsible person

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Grant name

Grant code / Reference number

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

Yes

Title of funding source

Tabriz University

Proportion provided by this source

20

Public or private sector

Public

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

PhD student of Tabriz University

Full name of responsible person

Shabnam Akbarzadeh

Position

PhD student

Latest degree

Master

Other areas of specialty/work

Exercise and health

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Person responsible for scientific inquiries

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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

There is no more information.

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not 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