

Clinical Trial Protocol

Iranian Registry of Clinical Trials

20 Jul 2026

The effect of two training methods of high-intensity interval training and high-intensity circuit training on serum levels of Asprosin, Glypican_4 and Lipid profile in over weight and obese women

Protocol summary

Study aim

Determining the effect of HIIT and HICT training methods on serum levels of aspirin, glypican-4 and lipid profile in overweight and obese women

Design

The present study will be conducted in the form of a three-group quasi-experimental design (HIIT training group, HICT training group and control group) with a pre-test-post-test design. The method of voluntary sampling and division will be in three groups with non-random allocation that 10 obese people will be in the HIIT training group, 10 people in the HICT training group and 10 people in the control group.

Settings and conduct

The training period will include 10 weeks of familiarization (preparation) for 10 weeks and three sessions per week. The first two weeks will be held in Takhti gymnasium in Marand city in order to prepare for heavy HIIT and HICT exercises. Then the main exercises will start from the third week. Before training, first do kinetic movements up to 50% of the maximum heart rate and stretching exercises to warm up. Also, cooling down will be performed at the end of each session.

Participants/Inclusion and exclusion criteria

Overweight and obese healthy women between the ages of 30 and 45 can participate in the study Women who are athletes, patients, and outside of the age and body mass index range can not participate in the study

Intervention groups

high intensity interval training high intensity circuit training

Main outcome variables

Weight Loss Decreased body mass index Decreased obesity hormones

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210715051899N1**

Registration date: **2021-10-09, 1400/07/17**

Registration timing: **prospective**

Last update: **2021-10-09, 1400/07/17**

Update count: **0**

Registration date

2021-10-09, 1400/07/17

Registrant information

Name

Parvane Dolatabadi

Name of organization / entity

University of tabriz

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-10-22, 1400/07/30

Expected recruitment end date

2021-12-21, 1400/09/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty	East Azarbaijan
Scientific title	Postal code
The effect of two training methods of high-intensity interval training and high-intensity circuit training on serum levels of Asprosin, Glypican_4 and Lipid profile in over weight and obese women	5166616471
Public title	Approval date
The effect of two training methods on obesity hormones	2021-08-29, 1400/06/07
Purpose	Ethics committee reference number
Prevention	IR.TABRIZU.REC.1400.027
Inclusion/Exclusion criteria	Health conditions studied
Inclusion criteria:	1
Overweight and obese non-athlete women (28% BMI) in the age range of 30 to 45 years Homogeneous individual characteristics (age, sex, body mass index, fat percentage) Do not smoke or drink alcohol	Description of health condition studied
Exclusion criteria:	obesity
Women with any chronic illness Women who exercise regularly and take sports supplements Women who have gone through menopause	ICD-10 code
Age	E66. 9
From 30 years old to 45 years old	ICD-10 code description
Gender	Obesity, unspecified
Female	Primary outcomes
Phase	1
N/A	Description
Groups that have been masked	Asprosin
No information	Timepoint
Sample size	At the beginning of the study after 12 hours of fasting and 48 hours after the end of the exercise period
Target sample size: 60	Method of measurement
Randomization (investigator's opinion)	Blood sampling and evaluation of serum levels. The ELISA kit will be used
Not randomized	2
Randomization description	Description
Blinding (investigator's opinion)	Glypican-4
Not blinded	Timepoint
Blinding description	At the beginning of the study after 12 hours of fasting and 48 hours after the end of the exercise period
Placebo	Method of measurement
Not used	Blood sampling and evaluation of serum levels. The ELISA kit will be used
Assignment	3
Parallel	Description
Other design features	triglyceride
Unique exercises methods	Timepoint
Secondary Ids	At the beginning of the study after 12 hours of fasting and 48 hours after the end of the exercise period
empty	Method of measurement
Ethics committees	Blood sampling and evaluation of serum levels. Photometric method will be used
1	4
Ethics committee	Description
Name of ethics committee	Total Cholesterol
Biomedical Ethics Committee of Tabriz University	Timepoint
Street address	At the beginning of the study after 12 hours of fasting and 48 hours after the end of the exercise period
Tabriz. 29 Bahman Boulevard. Tabriz University. Biomedical Ethics Committee of Tabriz University	Method of measurement
City	
Tabriz	
Province	

Blood sampling and evaluation of serum levels.
Photometric method will be used

5

Description

High density lipoprotein

Timepoint

At the beginning of the study after 12 hours of fasting
and 48 hours after the end of the exercise period

Method of measurement

Blood sampling and evaluation of serum levels.
Photometric method will be used

6

Description

Low density lipoprotein

Timepoint

At the beginning of the study after 12 hours of fasting
and 48 hours after the end of the exercise period

Method of measurement

Blood sampling and evaluation of serum levels.
Photometric method will be used

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: high intensity interval training (HIIT).The subjects' training period will include 10 weeks of familiarization (preparation) for 10 weeks and three sessions per week. The first two weeks will be done to prepare for the heavy HIIT workouts. Then the main exercises will start from the third week. Subjects in the HIIT training group will perform three sessions of HIIT training at maximum intensity each week. The first and second weeks include 3 sets of 6 repetitions (each repetition 15 seconds and rest between repetitions 6-1), the third and fourth week 3 sets of 5 repetitions (each repetition 20 seconds and rest between repetitions 5-1) and the fifth and sixth week 3 sets of 4 repetitions (25 repetitions per repetition and rest between repetitions 4-1) The seventh and eighth week will be 3 sets of 4 repetitions (each repetition 30 seconds and rest between repetitions 4-1)

Category

Prevention

2

Description

Intervention group: high intensity circuit training (HICT).These exercises will be done 3 sessions a week with maximum intensity. Each session will include 12 exercises. The duration of each movement in the first and second week will be 20 seconds and each cycle 2 times, in the third and fourth week 25 seconds and each

cycle 3 times, the fifth to eighth week 30 seconds and each cycle 4 times. The rest time between movements will be 30 to 60 seconds and between cycles will be 3 minutes.

Category

Prevention

3

Description

Intervention group: Control group: This group does not exercise. Only basic measurements such as anthropometric features and blood sampling will be performed.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Sarah Laboratory

Full name of responsible person

Pooran Karimi

Street address

Tabriz - Ostad Shahriyar Boulevard, in front of
University Square, next to the General Welfare Office,
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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The university of Tabriz

Full name of responsible person

Ramin Amirsasan

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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

The university of Tabriz

Proportion provided by this source

100

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

The university of tabriz

Full name of responsible person

Ramin Amirsasan

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Nutrition

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Person responsible for scientific inquiries

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Position

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Latest degree

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Other areas of specialty/work

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Person responsible for updating data

Contact

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Full name of responsible person

Parvane Dolatabadi

Position

PhD student

Latest degree

Master

Other areas of specialty/work

Student of sports physiology. Exercise specialist

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

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

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

Undecided - It is not yet known if there will be 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

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

Data Dictionary

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