

Clinical Trial Protocol

Iranian Registry of Clinical Trials

03 Jul 2026

The effect of eight weeks of high intensity interval and continuous training on galectin 3, GDF15, NT-ProBNP and IL6 in overweight men

Protocol summary

Study aim

The aim of this study was to evaluate the effect of eight weeks of intense and continuous intermittent training on galectin 3, growth differentiating factor 15, NT-proBNP and interleukin 6 in overweight men.

Design

In this study, 36 overweight men participated voluntarily who were randomly divided into three groups of control, continuous training and high intensity interval training.

Settings and conduct

The present study is conducted in Ahar city. Training protocols run for three sessions per week for eight weeks. Blood samples are taken from the subjects in two stages before the test and after the test.

Participants/Inclusion and exclusion criteria

Criteria for selection of individuals, being male, age range between 23 to 28 years and body mass index between 25 to 30, Lack of cardiovascular, liver, kidney and pulmonary disease and serious physical and orthopedic injuries, as well as lack of regular exercise in the year leading to the study.

Intervention groups

High intensity interval training group and continuous training group and control group. The intense interval training group first warmed up on the treadmill for 10 minutes with an intensity of 40-50% of the maximum heart rate, and then the main program, which included 4 repetitions of 4 minutes of activity, was performed. Between each workout was a 3-minute active rest session with an intensity of 50-40 percent of the maximum heart rate. The moderate-intensity continuous training protocol included 4 minutes of warm-up with 40 to 50 percent of maximum heart rate and 40 minutes of running with 60 to 70 percent of heart rate. Finally, 3 minutes of cooling with 50 percent intensity is included. The control group did not have any training during this period.

Main outcome variables

Galectin-3; GDF-15; NT-proBNP, which are predictors of

cardiovascular status.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20201108049299N1**

Registration date: **2020-12-06, 1399/09/16**

Registration timing: **retrospective**

Last update: **2020-12-06, 1399/09/16**

Update count: **0**

Registration date

2020-12-06, 1399/09/16

Registrant information

Name

mohammad moradi

Name of organization / entity

University of tehran

Country

Iran (Islamic Republic of)

Phone

+98 41 4422 9447

Email address

m.moradi13@ut.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-09-24, 1398/07/02

Expected recruitment end date

2019-10-02, 1398/07/10

Actual recruitment start date

2019-09-24, 1398/07/02

Actual recruitment end date

2019-10-02, 1398/07/10

Trial completion date

2019-11-28, 1398/09/07

Scientific title

The effect of eight weeks of high intensity interval and continuous training on galectin 3, GDF15, NT-ProBNP and IL6 in overweight men

Public title

The effect of two types of exercise on some predictors of cardiovascular status in overweight men

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

Age range between 23 and 28 BMI between 25 and 30
Male gender

Exclusion criteria:

No history of known cardiovascular, hepatic, renal, pulmonary and diabetic diseases, hypothyroidism No serious physical injury and orthopedics Do not take food and medicine supplements no regular exercise in the year leading up to the study

Age

From **23 years** old to **28 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **36**

Actual sample size reached: **36**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple Random

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 Tehran University

Street address

No. 25, Yakhchal Ave., Sheikh shahab Blvd.

City

Ahar

Province

East Azarbaijan

Postal code

5451777485

Approval date

2019-07-15, 1398/04/24

Ethics committee reference number

IR.UT.SPORT.REC.1398.031

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

Overweight

ICD-10 code

E66.3

ICD-10 code description

Overweight

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

Galectin 3

Timepoint

Two days before the start of the study and two days after the end of the study (eight weeks of study)

Method of measurement

Blood draw from arm vein and laboratory kit of galectin 3

2**Description**

Interleukin 6

Timepoint

Two days before the start of the study and two days after the end of the study (eight weeks of study)

Method of measurement

Blood draw from arm vein and laboratory kit of Interleukin6

3**Description**

NT-ProB-Type Natriuretic Peptide (BNP)

Timepoint

Two days before the start of the study and two days after the end of the study (eight weeks of study)

Method of measurement

Blood draw from arm vein and laboratory kit of NT-ProBNP

4**Description**

Growth Differentiation Factor-15 (GDF15)

Timepoint

Two days before the start of the study and two days after the end of the study (eight weeks of study)

Method of measurement

Blood draw from arm vein and laboratory kit of GDF15

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: High intensity interval training with three sessions of interval training protocol each week for eight weeks.

Category

N/A

2

Description

Intervention group 2: Continuous training that performed three sessions of continuous training protocol every eight weeks.

Category

N/A

3

Description

Control group: did not have any exercise activities during the study.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Ahar city

Full name of responsible person

Mohammad Moradi

Street address

Ahar Azad University Sports Gym., Ahar-Tabriz Road

City

Ahar

Province

East Azarbaijan

Postal code

5451116714

Phone

+98 41 4423 9758

Email

m.moradi13@ut.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Tehran

Full name of responsible person

Ali Akbarnejad

Street address

Faculty of Physical Education and Sport Sciences,
Kargar Shomali Ave., Engelab Sq

City

Tehran

Province

Tehran

Postal code

6619-14155

Phone

+98 21 8835 1730

Email

infosport@ut.ac.ir

Grant name

Grant code / Reference number

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

No

Title of funding source

personal expenses

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

Persons

Person responsible for general inquiries

Contact

Name of organization / entity

The University of Tehran

Full name of responsible person

Mohammad Moradi

Position

PHD Student

Latest degree

Master

Other areas of specialty/work

Physical Education

Street address

No. 25 Yakhchal Ave., Sheikh Shahab Blvd

City

Ahar

Province

East Azarbaijan

Postal code

5451777485

Phone

+98 41 4422 9447

Email

m.moradi13@ut.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

The University of Tehran

Full name of responsible person

Mohammad Moradi

Position

PHD Student

Latest degree

Ph.D.

Other areas of specialty/work

Physiology of Exercise

Street address

No. 25, Yakhchal Ave., Sheikh Shahab Blvd., Ahar

City

Ahar

Province

East Azarbaijan

Postal code

5451777485

Phone

+98 41 4422 9447

Fax**Email**

m.moradi13@ut.ac.ir

Person responsible for updating data

Contact

Name of organization / entity

University of tehran

Full name of responsible person

Mohammad Moradi

Position

PHD student

Latest degree

Ph.D.

Other areas of specialty/work

Physiology of exercise

Street address

No.25 , Yakhchal Ave., sheikh shahab Blvd. , Ahar

City

Ahar

Province

East Azarbaijan

Postal code

5451777485

Phone

+98 41 4422 9447

Fax**Email**

m.moradi13@ut.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is 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

Not applicable

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

No - There is not a plan to make this available

Data Dictionary

Not applicable

Title and more details about the data/document

Sample data can be shared on average in a table

When the data will become available and for how long

Access period starts 6 months after the results are published

To whom data/document is available

Researchers working in academic and scientific institutions

Under which criteria data/document could be used

To use data for research work

From where data/document is obtainable

University of Tehran Faculty of Physical Education
infosport@ut.ac.ir <http://www.sport.ut.ac.ir> 02188351730

What processes are involved for a request to access data/document

Refer to the library unit of the Faculty of Physical Education, University of Tehran

Comments