

# 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

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##### Phone

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##### Email

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## 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**

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**Province**

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**Postal code**

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**Fax****Email**

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## Person responsible for updating data

### Contact

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University of tehran

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Mohammad Moradi

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PHD student

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Ph.D.

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## 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**