

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

23 Jun 2026

### The Effect of 12 weeks interval resistance training with different intensity on inflammatory and proinflammatory markers in obese men

#### Protocol summary

##### Study aim

12 weeks of Interval Resistance Training with different intensities affects the levels of some selected adipokines in obese men.

##### Design

The present study is a quasi-experimental and applied method with a pre-test-post-test design with a control group. The samples will be divided into 4 groups based on demographic characteristics: control group (11 people), intervention group 1 (11 people), intervention 2 (11 people) and intervention 3 (11 people).

##### Settings and conduct

Two days before the start of the intervention period, initial assessments including anthropometric indices (height and weight and body mass index) of each subject will be measured in the gym. Resistance training protocol at different intensities in 12 weeks, 3 sessions per week, Each session will last 70 minutes. 48 hours before the start of the training program and 48 hours after the end of the last training session, all participants will fast for 12 hours to take a pre-test blood sample from the right arm artery. 10 cc will be collected.

##### Participants/Inclusion and exclusion criteria

Entry requirements: Body mass index = 30 No addiction to drugs and alcohol No history of regular exercise for at least 6 months No history of kidney, liver, cardiovascular disease, diabetes

##### Intervention groups

Intervention group 1: High intensity resistance circular training: 3 sets of 10 repetitions with 80% of a maximum repetition Intervention group 2: Circular resistance training with moderate intensity: 3 sets of 13 repetitions with 60% of a maximum repetition Intervention group 3: Low intensity resistance resistance training: 3 sets of 20 repetitions with 40% of a maximum repetition control group.

##### Main outcome variables

Toll Like Receptor4 (TLR4), Toll Like Receptor4(TLR2) , Interleukin 10(IL-10), Interleukin 1 beta(IL-1beta),

Dectin-1

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20211123053155N1**

Registration date: **2021-12-01, 1400/09/10**

Registration timing: **prospective**

Last update: **2021-12-01, 1400/09/10**

Update count: **0**

##### Registration date

2021-12-01, 1400/09/10

##### Registrant information

##### Name

Nader Najafi

##### Name of organization / entity

The University of Mohaghegh Ardabili

##### Country

Iran (Islamic Republic of)

##### Phone

+98 41 4333 3132

##### Email address

najafi.nader@uma.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-12-22, 1400/10/01

##### Expected recruitment end date

2022-03-19, 1400/12/28

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

**Trial completion date**

empty

**Scientific title**

The Effect of 12 weeks interval resistance training with different intensity on inflammatory and proinflammatory markers in obese men

**Public title**

Evaluation of The Effect of Resistance Training in obese people

**Purpose**

Prevention

**Inclusion/Exclusion criteria****Inclusion criteria:**

Body mass index = 30 No addiction to drugs and alcohol  
No history of regular exercise for at least 6 months No history of kidney, liver, cardiovascular disease, diabetes

**Exclusion criteria:****Age**

From **20 years** old to **30 years** old

**Gender**

Male

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **50**

**Randomization (investigator's opinion)**

Not randomized

**Randomization description****Blinding (investigator's opinion)**

Not blinded

**Blinding description****Placebo**

Not used

**Assignment**

Other

**Other design features**

Group 1: High-intensity resistance training Group II: Medium-intensity resistance training Group 3: Low-intensity resistance training Group 4: Control

**Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Ethics Committee of Mohaghegh Ardabili University

**Street address**

Mohaghegh Ardabil University, End of University Street

**City**

Ardabil

**Province**

Ardabil

**Postal code**

5619913131

**Approval date**

2021-11-06, 1400/08/15

**Ethics committee reference number**

IR.UMA.REC.1400.025

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

Obesity

**ICD-10 code**

E66

**ICD-10 code description**

Overweight and obesity

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

Dectin-1

**Timepoint**

48 hours before and 48 hours after training intervention

**Method of measurement**

Equipment needed: Date disposable syringe, standard garo or tourniquet, test tube containing anticoagulant (EDTA), sterile cotton, 75% ethanol alcohol, Company ELISA kit (American) using ELISA device

**2****Description**

IL-10

**Timepoint**

48 hours before and 48 hours after training intervention

**Method of measurement**

Equipment needed: Date disposable syringe, standard garo or tourniquet, test tube containing anticoagulant (EDTA), sterile cotton, 75% ethanol alcohol, Company ELISA kit (Czech Republic) using ELISA device

**3****Description**

IL-1 beta

**Timepoint**

48 hours before and 48 hours after training intervention

**Method of measurement**

Equipment needed: Date disposable syringe, standard garo or tourniquet, test tube containing anticoagulant (EDTA), sterile cotton, 75% ethanol alcohol, Company ELISA kit (American) using ELISA device

**4****Description**

TRL2

**Timepoint**

48 hours before and 48 hours after training intervention

## Method of measurement

Equipment needed: Date disposable syringe, standard garo or tourniquet, test tube containing anticoagulant (EDTA), sterile cotton, 75% ethanol alcohol, Company ELISA kit (American) using ELISA device

## 5

### Description

TLR 4

### Timepoint

48 hours before and 48 hours after training intervention

### Method of measurement

Equipment needed: Date disposable syringe, standard garo or tourniquet, test tube containing anticoagulant (EDTA), sterile cotton, 75% ethanol alcohol, Company ELISA kit (American) using ELISA device

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group 1: High intensity slow training group: 3 sets of 10 repetitions with 80% of a maximum repetition. 12 weeks, 3 days a week, each session 70 minutes

#### Category

Prevention

### 2

#### Description

Intervention group 2: Medium intensity circular exercise group: 3 sets of 13 repetitions with 60% of a maximum repetition of 12 weeks, 3 days a week, each session 70 minutes

#### Category

Prevention

### 3

#### Description

Intervention group 3: Low intensity circular exercise group: 3 sets of 20 repetitions with 40% of a maximum repetition of 12 weeks, 3 days a week, each session 70 minutes

#### Category

Prevention

### 4

#### Description

Control group: No physical activity

#### Category

N/A

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Mohaghegh Ardabil University

##### Full name of responsible person

Nader Najafi

##### Street address

Mohaghegh Ardabil University, End of University Street

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##### Province

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##### Phone

+98 45 3150 5000

##### Email

najafinader22@gmail.com

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

The University of Mohaghegh Ardabil

##### Full name of responsible person

Davood Seifzadeh

##### Street address

Mohaghegh Ardabil University, End of University Street

##### City

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##### Province

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##### Postal code

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##### Phone

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##### Email

seifzadeh@uma.ac.ir

#### Grant name

#### Grant code / Reference number

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

Yes

#### Title of funding source

The University of Mohaghegh Ardabil

#### 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 Mohaghegh Ardabili  
**Full name of responsible person**  
Nader Najafi  
**Position**  
PhD student  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**  
Sport physiology  
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## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**  
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**Full name of responsible person**  
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**Position**  
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**Latest degree**  
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## Person responsible for updating data

### Contact

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The University of Mohaghegh Ardabili  
**Full name of responsible person**  
Nader Najafi  
**Position**  
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**Latest degree**  
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najafi.nader@uma.ac.ir

## 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

Yes - There is a plan to make this available

### Statistical Analysis Plan

Not applicable

### Informed Consent Form

Yes - There is a plan to make this available

### Clinical Study Report

Not applicable

### Analytic Code

Not applicable

### Data Dictionary

Not applicable

### Title and more details about the data/document

The program protocol and informed consent are easily accessible to individuals

### When the data will become available and for how long

After completing the research and publishing articles

### To whom data/document is available

Academics and sports coaches

### Under which criteria data/document could be used

According to the articles of this research, the use of training protocol is allowed.

### From where data/document is obtainable

Email: najafinader22@gmail.com

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

Please email and explain what research they need. Data is provided to them in a minimum of time.

### Comments