

Clinical Trial Protocol

Iranian Registry of Clinical Trials

14 Jul 2026

Investigate and Compare the Effect of Eight Weeks Resistance and Endurance Training with Vitamin D Supplementation on Some Serum Angiogenesis Indices in Obese Hypertensive Meedle- Aged Men

Protocol summary

Summary

Aim of this research is to investigate and compare the effect of eight weeks resistance and endurance training with vitamin D supplementation on some serum angiogenesis indices in obese hypertensive meedle-aged men. 63 men who have high blood pressure (subjects were on the threshold of having hypertension, but not taking the drug that reduce blood pressure) participated in the study after the completion of a consent form. Subject were divided in 6 groups of resistance training with vitamin D supplement (N= 11), resistance training with placebo (N= 12), endurance training with vitamin D supplement (N= 9), endurance training with placebo (N= 11), vitamin D (N= 10) and control (no intervention, N= 10). Blood sample were taken for evaluation of endothelial growth factor, nitric oxaide, interleukin 4 and interleukin 8 in basal state and after 8 week exercise.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017062421719N1**
Registration date: **2017-08-16, 1396/05/25**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-08-16, 1396/05/25

Registrant information

Name

Mehdi Hakimi

Name of organization / entity

University of Mohaghegh Ardabili

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Mohaghegh Ardabili University

Expected recruitment start date

2016-04-20, 1395/02/01

Expected recruitment end date

2017-03-19, 1395/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigate and Compare the Effect of Eight Weeks Resistance and Endurance Training with Vitamin D Supplementation on Some Serum Angiogenesis Indices in Obese Hypertensive Meedle- Aged Men

Public title

The effect of exercise training with ingested of vitamin D on angiogenesis

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: non-athletic, Being in the age range of 35 to 45 years old, Being male, obesity and having high blood pressure (subjects were on the threshold of having hypertension, but not taking the drug that reduce blood pressure). Exclusion criteria: Taking the drug that reduce

blood pressure and smoking,
Age
From **35 years** old to **45 years** old
Gender
Male

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **63**
Randomization (investigator's opinion)
Randomized
Randomization description
Blinding (investigator's opinion)
Double blinded
Blinding description
Placebo
Used
Assignment
Factorial
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Mohaghegh Ardabili University
Street address
Mohaghegh Ardabili University, University Street,
Ardabil
City
Ardabil
Postal code
Approval date
2016-08-27, 1395/06/06
Ethics committee reference number
95-06-06-1257

Health conditions studied

1

Description of health condition studied
Hypertension
ICD-10 code
I10
ICD-10 code description
Essential (primary) hypertension

Primary outcomes

1

Description

Endothelial growth factor
Timepoint
Basal state and after 8 week
Method of measurement
Based on nanogram per liter with ELISA method

2

Description
Nitric oxide
Timepoint
Basal state and after 8 week
Method of measurement
Based on micromole per liter with ELISA method

3

Description
Interleukin- 8
Timepoint
Basal state and after 8 week
Method of measurement
Based on nanogram per liter with ELISA method

4

Description
Interleukin- 4
Timepoint
Based on nanogram per liter with ELISA method
Method of measurement
Basal state and after 8 week

5

Description
Blood pressure
Timepoint
Basal state and after 8 week
Method of measurement
Based on millimeters of mercury using a digital arm
manometer

Secondary outcomes

empty

Intervention groups

1

Description
The subjects of resistance exercise with vitamin- D group participated in 8 weeks of resistance training with ingested of vitamin- D supplement. Blood sample were taken in basal state and after 8 week.
Category
Prevention

2

Description
The subjects of endurance exercise with vitamin- D

group participated in 8 weeks of endurance training with ingested of vitamin- D supplement. Blood sample were taken in basal state and after 8 week

Category

Prevention

3

Description

The subjects of endurance exercise with placebo group participated in 8 weeks of endurance training with ingested of placebo. Blood sample were taken in basal state and after 8 week.

Category

Prevention

4

Description

The subjects of resistance exercise with placebo group participated in 8 weeks of resistance training with ingested of placebo. Blood sample were taken in basal state and after 8 week.

Category

Prevention

5

Description

The subjects of vitamin- D group participated in 8 weeks of ingested of vitamin- D supplement. Blood sample were taken in basal state and after 8 week.

Category

Prevention

6

Description

The subjects of control group (There was no intervention). Blood sample were taken in basal state and after 8 week.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Mohaghegh Ardabili University

Full name of responsible person

Mehdi Hakimi

Street address

Mohaghegh Ardabili University, University Street, Ardabil

City

Ardabil

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Mohaghegh Ardabili University

Full name of responsible person

Dr. Mohammad Narimani

Street address

Mohaghegh Ardabili University, University Street, Ardabil

City

Ardabil

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Mohaghegh Ardabili University

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Mohaghegh Ardabili University

Full name of responsible person

Mehdi Hakimi

Position

Phd Student

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

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Full name of responsible person

Marefat Siahkuhan

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Professor
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty