Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 placepo (N= 12), endurance training with vitamin D supplement (N= 9), endurance training with placepo (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 oxaide

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

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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

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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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Full name of responsible person

Marefat Siahkuhian

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Professor
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Person responsible for updating data

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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