

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

11 Jul 2026

### The Effect of 12 week Aerobic and Resistance Exercise on Serum Levels of Paraoxonase-1, Hydrogen Peroxide, Adiponectin, Atrial Natriuretic peptide, Apelin and Endothelin-1 in Men With High Blood Pressure

#### Protocol summary

##### Summary

Aim of this research is to investigate the effect of 12 week moderate aerobic and resistance exercise on blood pressure markers in men with high blood pressure. 28 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 two groups of 12 week aerobic exercise and resistance exercise. Blood sample were taken for evaluation of Paraoxonase-1, Hydrogen Peroxide, Adiponectin, Atrial Natriuretic Peptide, Apelin and Endothelin-1 in basal state and after 4 week, 8 week and 12 week exercise.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2015060521481N2**

Registration date: **2015-06-25, 1394/04/04**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2015-06-25, 1394/04/04

##### Registrant information

###### Name

Behrouz Baghaiee

###### Name of organization / entity

Mohaghegh Ardabili University

###### Country

Iran (Islamic Republic of)

###### Phone

+98 45 3351 2081

##### Email address

behrouz\_phsport@uma.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

Mohaghegh Ardabili University

##### Expected recruitment start date

2014-11-11, 1393/08/20

##### Expected recruitment end date

2015-03-12, 1393/12/21

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

The Effect of 12 week Aerobic and Resistance Exercise on Serum Levels of Paraoxonase-1, Hydrogen Peroxide, Adiponectin, Atrial Natriuretic peptide, Apelin and Endothelin-1 in Men With High Blood Pressure

##### Public title

The Effect of Physical Activity on Blood Pressure Markers

##### Purpose

Prevention

##### Inclusion/Exclusion criteria

Inclusion criteria: Having high blood pressure (subjects were on the threshold of having hypertension, but not taking the drug that reduce blood pressure); Being in the age range of 35 to 42 years old; Being male Exclusion criteria: Taking the drug that reduce blood pressure

##### Age

From **35 years** old to **42 years** old

##### Gender

Male

## Phase

N/A

## Groups that have been masked

No information

## Sample size

Target sample size: 28

## Randomization (investigator's opinion)

N/A

## Randomization description

## 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

Mohaghegh Ardabili University

##### Street address

University Street, Ardabil, Iran

##### City

Ardabil

##### Postal code

#### Approval date

2014-10-18, 1393/07/26

#### Ethics committee reference number

93.319

## Health conditions studied

### 1

#### Description of health condition studied

High blood pressure

#### ICD-10 code

I10

#### ICD-10 code description

Essential (primary) hypertension

## Primary outcomes

### 1

#### Description

Paraoxonase-1

#### Timepoint

Basal state and after 4 week, 8 week and 12 week

#### Method of measurement

autoanalyzer

### 2

#### Description

Hydrogen Peroxide

#### Timepoint

Basal state and after 4 week, 8 week and 12 week

#### Method of measurement

autoanalyzer

### 3

#### Description

Adiponectin

#### Timepoint

Basal state and after 4 week, 8 week and 12 week

#### Method of measurement

autoanalyzer

### 4

#### Description

Apelin

#### Timepoint

Basal state and after 4 week, 8 week and 12 week

#### Method of measurement

autoanalyzer

### 5

#### Description

Endothelin-1

#### Timepoint

Basal state and after 4 week, 8 week and 12 week

#### Method of measurement

autoanalyzer

### 6

#### Description

Atrial Natriuretic Peptide

#### Timepoint

Basal state and after 4 week, 8 week and 12 week

#### Method of measurement

autoanalyzer

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

The subjects of aerobic exercise group participated in 12 weeks of moderate aerobic exercise. Blood sample were taken in basal state and after 4 week, 8 week and 12 week.

#### Category

Prevention

### 2

#### Description

The subjects of resistance exercise group participated in 12 weeks of resistance exercise. Blood sample were taken in basal state and after 4 week, 8 week and 12 week.

**Category**

Prevention

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

Mohaghegh Ardabili University

**Full name of responsible person**

Behrouz Baghaiee

**Street address**

Mohaghegh Ardabili University, University Street, Ardabil, Iran

**City**

Ardabil

**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Mogheghegh Ardabili University

**Full name of responsible person**

Dr Mohammad Narymani

**Street address**

University Mohaghegh Ardabili, Unirversity Street, Ardabil, Iran

**City**

Ardabil

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Mogheghegh 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**

Behrouz Baghaiee

**Position**

PhD Student

**Other areas of specialty/work**

**Street address**

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**Web page address**

## **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*