

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

28 Jun 2026

### Effect of Eight Weeks of Aerobic Training on Some Factors of vessel Endothelial Function and Changes of Estrogen Hormone in non-active Postmenopausal Women

#### Protocol summary

##### Summary

The aim of this study is to investigate the effects of eight weeks of aerobic training on some factors of vessel endothelial function and changes of estrogen hormone in non-active postmenopausal women. Methodology: 20 volunteer of postmenopausal women randomly assigned to experimental and control groups. Subjects don't exercise regularly and if there is any type of physical injury, and orthopedic exercises to interfere with the implementation of the survey, subjects will be excluded. Experimental group exercise (eight weeks with a frequency of three sessions per week of walking for 30 to 45 minutes per session) with 50 to 70 percent of heart rate reserve. Before and after the exercise program, weight, percent body fat, FMD, ACE, nitric oxide, estrogen hormone will be measured.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2012102411250N1**

Registration date: **2012-11-30, 1391/09/10**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2012-11-30, 1391/09/10

##### Registrant information

##### Name

Samaneh Farahati

##### Name of organization / entity

Ferdowsi university of Mashhad

##### Country

Iran (Islamic Republic of)

##### Phone

+98 51 1868 3090

##### Email address

sa\_fa316@stu-mail.um.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

Ferdowsi university of Mashhad

##### Expected recruitment start date

2012-04-08, 1391/01/20

##### Expected recruitment end date

2012-06-18, 1391/03/29

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Effect of Eight Weeks of Aerobic Training on Some Factors of vessel Endothelial Function and Changes of Estrogen Hormone in non-active Postmenopausal Women

##### Public title

Effect of Eight Weeks of Aerobic Training on Some Factors of vessel Function

##### Purpose

Prevention

##### Inclusion/Exclusion criteria

Inclusion criteria: At least one year past from the menopause. Menopause is occur naturally; without regular physical activity. Exclusion criteria: Any physical injury and orthopedic to interfere with training and Hinder the quality of training.

##### Age

From **45 years** old to **60 years** old

##### Gender

Female

### Phase

N/A

### Groups that have been masked

No information

### Sample size

Target sample size: 20

### Randomization (investigator's opinion)

Randomized

### Randomization description

### Blinding (investigator's opinion)

Single blinded

### Blinding description

### Placebo

Not used

### Assignment

Parallel

### Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Department of Physical Education and Sports Sciences, Ferdowsi University of Mashhad

##### Street address

Ferdowsi university of Mashhad

##### City

Mashhad

##### Postal code

##### Approval date

2012-05-28, 1391/03/08

##### Ethics committee reference number

23039

## Health conditions studied

### 1

#### Description of health condition studied

postmenopausal

#### ICD-10 code

N95.1

#### ICD-10 code description

Menopausal and female climacteric states

## Primary outcomes

### 1

#### Description

Flow mediated dilation

#### Timepoint

before training-after training

#### Method of measurement

Doppler Ultrasonography

### 2

#### Description

Angiotensin-converting enzyme

#### Timepoint

before training-after training

#### Method of measurement

HPLC method

### 3

#### Description

nitric oxide

#### Timepoint

before training-after training

#### Method of measurement

ELISA kit

### 4

#### Description

estrogen hormone

#### Timepoint

before training-after training

#### Method of measurement

Electroluminescence

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Experimental group exercise (eight weeks with a frequency of three sessions per week of walking for 30 to 45 minutes per session) with 50 to 70 percent of heart rate reserve

#### Category

Other

### 2

#### Description

Control groups were without training over eight weeks

#### Category

N/A

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Ferdowsi university of Mashhad

##### Full name of responsible person

##### Street address

##### City

Mashhad

## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**

Department of Physical Education and Sports Sciences, Ferdowsi University of Mashhad

**Full name of responsible person**

Seyyed Reza Attarzadeh Hosseini

**Street address**

Ferdowsi University of Mashhad

**City**

Mashhad

**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Department of Physical Education and Sports Sciences, Ferdowsi University of Mashhad

**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**

Department of Physical Education and Sports Sciences, Ferdowsi University of Mashhad

**Full name of responsible person**

Seyyed Reza Attarzadeh Hosseini

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## Person responsible for scientific inquiries

**Contact****Name of organization / entity**

Department of Physical Education and Sports Sciences, Ferdowsi University of Mashhad

**Full name of responsible person**

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## Person responsible for updating data

**Contact****Name of organization / entity****Full name of responsible person**

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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*