Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 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

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Name of organization / entity

Ferdowsi university of Mashhad

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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
Electroluminance

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
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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
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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