Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Effect of 6 months aerobic exercise training on markers of bone metabolism in middle-aged women

Protocol summary

Summary

The purpose of this study was to examine the effects of 6-Month aerobic exercise training on markers of bone metabolism in middle-aged women. A total of 19 healthy middle-aged female university workers were randomly assigned into aerobic exercise training or control group. The exercise protocol included aerobic (endurance) exercise training for 6 months and 3 sessions per week and every session lasted to 60 minutes and with intensity of 55-65 percent of heart rate reserve. Primary outcome measure was aerobic training.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201010034859N1**
Registration date: **2010-10-24, 1389/08/02**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2010-10-24, 1389/08/02

Registrant information

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Nahid Bijeh
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Recruitment status

Recruitment complete

Funding source

Deputy Research, Ferdowsi University of Mashhad

Expected recruitment start date

2007-07-23, 1386/05/01

Expected recruitment end date

2007-10-23, 1386/08/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of 6 months aerobic exercise training on markers of bone metabolism in middle-aged women

Public title

Effect of exercise training on bone metabolism

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria: Healthy, No drug based on the Health questionnaire, Non-menopausal, No participating in any exercise program. Exclusion criteria: Presence of any illness, menopause, drug consumption, smoking, participating in any exercise program

Age

From **37 years** old to **47 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **19**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)
Double blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ferdowsi University of Mashhad
Street address
Azadi Square
City
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9177948979
Approval date
empty
Ethics committee reference number
1686

Health conditions studied

1

Description of health condition studied
Osteoporosis
ICD-10 code
M81.8
ICD-10 code description
Other osteoporosis

Primary outcomes

1

Description
aerobic exercise training
Timepoint
Pre-exercise and post-exercise
Method of measurement
Aerobic power

Secondary outcomes

1

Description
parathyroid hormone
Timepoint
48 hours before exercise program and 48 hours after the last session after 6 months exercise
Method of measurement
Blood sample

2

Description
bone-alkaline phosphatase
Timepoint
48 hours before exercise program and 48 hours after the last session after 6 months exercise
Method of measurement
Blood sample

3

Description
Calcium
Timepoint
48 hours before exercise program and 48 hours after the last session after 6 months exercise
Method of measurement
Blood sample

Intervention groups

1

Description
The exercise protocol included aerobic (endurance) exercise training lasted to 6 months and 3 sessions per week and every session lasted to 60 minutes and with intensity of 55-65 percent of heart rate reserve
Category
Other

2

Description
control:Lack of exercise participation
Category
Diagnosis

Recruitment centers

1

Recruitment center
Name of recruitment center
Ferdowsi University of Mashhad
Full name of responsible person
Nahid Bijeh
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Sponsors / Funding sources

1

Sponsor
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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
Deputy Research 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
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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