

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

27 Jul 2026

**The effect of endurance training on endurance and cardiovascular endurance, body composition, estradiol, determines, IL-6, insulin, fasting blood glucose, fibrinogen, C-reactive protein, serum calcium and phosphorus sedentary postmenopausal women**

### Protocol summary

#### Summary

This study aimed to evaluate the effect of combined training (cross-resistance) on endurance and cardiovascular, body composition, estradiol, progesterone, interleukin-6, insulin, fasting blood glucose, fibrinogen, C-reactive protein, calcium, phosphorus, and calcium and phosphorus. Off the urine of postmenopausal women was conducted. Methods: In this study, 22 postmenopausal women were randomly assigned to two groups ( $n = 12$ , age:  $7/4 \pm 83/54$ ) and control ( $n = 10$ , age:  $9/4 \pm 90/56$ ) were divided. The experimental group three times a week, every 90 minutes, for 8 weeks. During this period, the control group did not participate in any exercise program. The ratio of waist-to-hip (WHR), body mass index (BMI), body fat percentage, cardiorespiratory fitness and serum levels of alkaline phosphatase, calcium, phosphorus, estradiol, progesterone, cholesterol, triglycerides, LDL, HDL, IL-6, insulin, fasting blood glucose, fibrinogen, C-reactive protein, calcium and phosphorus in urine, systolic and diastolic pressure, resting heart rate and sleep quality was measured before and after exercise.

### General information

#### Acronym

#### IRCT registration information

IRCT registration number: **IRCT2015122222498N4**

Registration date: **2016-03-12, 1394/12/22**

Registration timing: **retrospective**

Last update:

Update count: **0**

#### Registration date

2016-03-12, 1394/12/22

#### Registrant information

##### Name

Ramin Shabani

##### Name of organization / entity

Islamic Azad University

##### Country

Iran (Islamic Republic of)

##### Phone

+98 13 3375 2715

##### Email address

shabani@iaurasht.ac.ir

#### Recruitment status

##### Recruitment complete

#### Funding source

Islamic Azad University of Rasht

#### Expected recruitment start date

2014-07-23, 1393/05/01

#### Expected recruitment end date

2014-08-23, 1393/06/01

#### Actual recruitment start date

empty

#### Actual recruitment end date

empty

#### Trial completion date

empty

#### Scientific title

The effect of endurance training on endurance and cardiovascular endurance, body composition, estradiol, determines, IL-6, insulin, fasting blood glucose, fibrinogen, C-reactive protein, serum calcium and phosphorus sedentary postmenopausal women

#### Public title

The effect of combination endurance-resistance exercise training on inactive postmenopausal women

#### Purpose

Prevention

**Inclusion/Exclusion criteria**  
 Inclusion criteria: history of drug use have been present for at least one year from the last menstrual period, subjects were under 30 minutes of physical activity per week  
 Exclusion criteria: in practice groups, participants had been missing no more than two sessions, control group did not participate in any exercise program.

**Age**  
 No age limit

**Gender**  
 Female

**Phase**  
 N/A

**Groups that have been masked**  
*No information*

**Sample size**  
 Target sample size: **22**

**Randomization (investigator's opinion)**  
 Randomized

**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**  
 Islamic Azad University of Rasht

**Street address**  
 Lakan BVL

**City**  
 Rasht

**Postal code**

**Approval date**  
 2014-08-23, 1393/06/01

**Ethics committee reference number**  
 11721404922053

## Health conditions studied

1

**Description of health condition studied**  
 Menopausal

**ICD-10 code**  
 n95

**ICD-10 code description**  
 Menopausal and other perimenopausal disorders

## Primary outcomes

1

**Description**  
 estradiol

**Timepoint**  
 8 weeks after Exercise Training

**Method of measurement**  
 Blood in the laboratory

## Secondary outcomes

1

**Description**  
 alkaline phosphates

**Timepoint**  
 8 weeks after Exercise Training

**Method of measurement**  
 Blood in the laboratory

## Intervention groups

1

**Description**  
 1: Combined training was carried out for 8 weeks, 3 sessions per week. Duration of each session was 90 minutes

**Category**  
 Other

2

**Description**  
 The control group had no activity

**Category**  
 Other

## Recruitment centers

1

**Recruitment center**

**Name of recruitment center**  
 Mosque Moalem Blvd

**Full name of responsible person**  
 Nasim Shabanzadeh

**Street address**  
 Fazl, Moalem Blvd

**City**  
 Rasht

## Sponsors / Funding sources

1

**Sponsor**

**Name of organization / entity**  
 Islamic Azad University of Rasht

**Full name of responsible person**  
Ramin Shabani

**Street address**  
Lakan BVL

**City**  
Rasht

**Grant name**

**Grant code / Reference number**

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

**Title of funding source**  
Islamic Azad University of Rasht

**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**  
Islamic Azad university of Rasht

**Full name of responsible person**  
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**Position**  
Associate 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*