Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

The effect of eight weeks aerobic training with garlic supplements on inflammatory and cardiovascular factors in postmenopausal women with high blood pressure and obesity

Protocol summary

Study aim

The aim of this study was to examine the The effect of eight weeks aerobic training with garlic supplements on inflammatory and cardiovascular factors in postmenopausal women with high blood pressure and obesity.

Design

36 women with high blood pressure and obesity selected and randomly divided into four groups (Control, Water; Control, Garlic; Control, Training; Garlic, Training). Training group's perform Aerobic Training for for eight weeks, three sessions a week (55% to 65% of the reserved heart rate and for 30 to 55 min). Garlic and Garlic plus Training will feed 1000 mg of Garlic for eight weeks (Twice a day before breakfast and dinner).

Settings and conduct

The location of the research is Tabib Sports Complex in Sari, which has already been coordinated. In this research, people who work with subjects are blinded.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Confirmation of blood pressure by the doctor, Lack of other underlying illnesses, Not attending a regular exercise program in the past six months, Permission to participate in the exercise program with the opinion of a specialist physician, Satisfaction to participate in the study, Have at least 50 years of age
Exclusion criteria: Use supplement and practice, Diagnosis of other underlying illnesses during protocol implementation, Change in drug intake, Risk of exercise or supplementation

Intervention groups

Aerobic exercise and Garlic supplementation

Main outcome variables

Effect of aerobic training with Garlic supplements on inflammatory and cardiovascular factors such as: Lipocalin-1, IL-1β, MMP-3, MMP-9, TIMP-1

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20140415017288N6**
Registration date: **2019-07-22, 1398/04/31**
Registration timing: **prospective**

Last update: **2019-07-22, 1398/04/31**
Update count: **0**

Registration date

2019-07-22, 1398/04/31

Registrant information

Name

Ahmad Abdi

Name of organization / entity

Ayatollah Amoli Branch, Islamic Azad University

Country

Iran (Islamic Republic of)

Phone

+98 11 4321 7126

Email address

a.abdi@iauamol.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-08-06, 1398/05/15

Expected recruitment end date

2019-10-07, 1398/07/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
The effect of eight weeks aerobic training with garlic supplements on inflammatory and cardiovascular factors in postmenopausal women with high blood pressure and obesity

Public title
Effect of training and Garlic on Blood Pressure

Purpose
Health service research

Inclusion/Exclusion criteria

Inclusion criteria:
Confirmation of blood pressure by the doctor Lack of other underlying illnesses Not attending a regular exercise program in the past six months Permission to participate in the exercise program with the opinion of a specialist physician Satisfaction to participate in the study Have at least 50 years of age

Exclusion criteria:
Use supplement and practice Diagnosis of other underlying illnesses during protocol implementation Change in drug intake Risk of exercise or supplementation

Age
From **50 years** old to **65 years** old

Gender
Female

Phase
N/A

Groups that have been masked

- Participant

Sample size
Target sample size: **36**
More than 1 sample in each individual
Number of samples in each individual: **9**
in postmenopausal women with high blood pressure and obesity

Randomization (investigator's opinion)
Randomized

Randomization description
In this research, subjects are selected Simple randomization by random allocation rule. After determining the sample size, they will be equally divided into four groups (Control, Water; Control, Garlic; Control, Training; Garlic, Training).

Blinding (investigator's opinion)
Single blinded

Blinding description
The Control- Garlic and Garlic +Training patients receive Momordica charantia, two capsules orally of 500 mg twice daily before breakfast and dinner for 8 weeks. Control-Water and Control-Training groups receive placebo in the same pharmacological presentation. Starch is used as placebo.

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Sport Sciences Research Institute of Iran

Street address
Tehran: Motahari Ave., Miramad St., No. 5th Lane

City
Tehran

Province
Tehran

Postal code
1587958711

Approval date
2019-03-11, 1397/12/20

Ethics committee reference number
IR.SSRC.REC.1398.039

Health conditions studied

1

Description of health condition studied
Hypertensive diseases

ICD-10 code
I10

ICD-10 code description
Essential (primary) hypertension

Primary outcomes

1

Description
Effect of aerobic training and Garlic on Lipocalin-2

Timepoint
Before and after the protocol

Method of measurement
Biochemical and laboratory methods

2

Description
Effect of aerobic training and Garlic on IL-1β

Timepoint
Before and after the protocol

Method of measurement
Biochemical and laboratory methods

3

Description
Effect of aerobic training and Garlic on MMP-3

Timepoint
Before and after the protocol

Method of measurement

Biochemical and laboratory methods

4

Description
Effect of aerobic training and Garlic on MMP-9
Timepoint
Before and after the protocol
Method of measurement
Biochemical and laboratory methods

5

Description
Effect of aerobic training and Garlic on TIMP-1
Timepoint
Before and after the protocol
Method of measurement
Biochemical and laboratory methods

Secondary outcomes

empty

Intervention groups

1

Description
Control group: : in this group we have not any intervention during 6 weeks, and will consider this group as placebo.
Category
Placebo

2

Description
Intervention group: Training group (in this group for 8 week, three session/weeks, the training start with 10 min warming and then 30 min 55% reserved heart rate, increase to the training time up 55 min until the end of intervention with 65% of the reserved heart rate).
Category
Treatment - Other

3

Description
Intervention group: Garlic group (in this group eat 1000 mg of Garlic for eight weeks Twice a day before breakfast and dinner).
Category
Treatment - Other

4

Description
Intervention group: Garlic - Training group (In this group the Simultaneous intervention, Garlic and training, will treat with the same protocol that describe at the previous part)
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Health center of Sari city
Full name of responsible person
Ahmad Abdi
Street address
Ayatollah Amoli Branch, Islamic Azad University
City
Amol
Province
Mazandaran
Postal code
678
Phone
+98 11 4321 7216
Email
a.abdi@iauamol.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
Full name of responsible person
Asieeh Abbassi Daloii
Street address
Ayatollah Amoli Branch, Islamic Azad University
City
Amol
Province
Mazandaran
Postal code
678
Phone
+98 11 4321 7126
Email
abbasi.daloii@gmail.com
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Islamic Azad University
Proportion provided by this source
100
Public or private sector
Private
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity
Islamic Azad University

Full name of responsible person
Ahmad Abdi

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
Sport Medicine

Street address
Ayatollah Amoli Branch, Islamic Azad University

City
Amol

Province
Mazandaran

Postal code
678

Phone
+98 11 4321 7126

Email
a.abdi@iauamol.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity
Islamic Azad University

Full name of responsible person
Alireza Barari

Position
Associate Professor

Latest degree
Ph.D.

Other areas of specialty/work
Sport Medicine

Street address
Ayatollah Amoli Branch, Islamic Azad University

City
Amol

Province
Mazandaran

Postal code
678

Phone
+1 143217126

Email
alireza54.barari@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
Islamic Azad University

Full name of responsible person
Ahmad Abdi

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
Sport Medicine

Street address
Ayatollah Amoli Branch, Islamic Azad University

City
Amol

Province
Mazandaran

Postal code
678

Phone
+98 11 4321 7126

Email
a.abdi@iauamol.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available

Study Protocol
Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan
Not applicable

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
Yes - There is a plan to make this available

Analytic Code
Not applicable

Data Dictionary
Not applicable

Title and more details about the data/document
The report is submitted to the research department of the university. Also published as a paper.

When the data will become available and for how long
Since 2020

To whom data/document is available
All researchers

Under which criteria data/document could be used
Citing references

From where data/document is obtainable
Scientific bases and Ayatollah Amoli Branch, Islamic Azad University, amol, Iran

What processes are involved for a request to access data/document
Maximum one week

Comments