Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Nov 2026

The effect of garlic supplementation on response to inflammatory and enzymatic indices of oxidative stress after an intense aerobic and resistance exercise in young inactive females

Protocol summary

Study aim

The effect of garlic supplementation on response to inflammatory and enzymatic indices of oxidative stress after an intense aerobic and resistance exercise in young inactive females

Design

Randomized clinical trail with with 40 volunteers in 4 groups. With placebo group, with parallel groups.

Settings and conduct

The present research is a clinical trail study on sedentary young girl. Aerobic exercise were done by Bruce protocol test and resistance exercises were done by bodybuilding machine as exhausting of 70, 75 and 80%. For receive supplements and placebo, cans of two different colors was used in a bag (without the knowledge of the researcher and the subject). Exercise protocols and blood sampling were carried out at the club and heart clinic.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Inactive girl with 18 to 30 years old, Having complete physical, Not have regular exercise training during previous 3 months Exclusion criteria: Having allergy to garlic, Blood coagulation disease

Intervention groups

Intervention group 1: Aerobic exercise including Bruce protocol test combine with consumption of garlic tablet 500 mg , twice a day and for 2 weeks. Intervention group 2: Aerobic exercise including Bruce protocol test on treadmill combine with consumption of lactose capsule 500 mg , twice a day for 2 weeks.Intervention group 3: Resistance exercises were done by bodybuilding machine as exhausting of 70, 75 and 80% and the rest time for each station was 30 seconds and between each set was 3 minutes combine Similar to garlic supplementation. Intervention group 4: Resistance exercises were done by bodybuilding machine as exhausting of 70, 75 and 80% and the rest time for each station was 30 seconds and between each set was 3 minutes combine with consumption of lactose capsule 500 mg , twice a day for 2 weeks.

Main outcome variables

inflammatory and enzymatic indices

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20151210025466N2**
Registration date: **2019-01-29, 1397/11/09**
Registration timing: **retrospective**

Last update: **2019-01-29, 1397/11/09**
Update count: **0**

Registration date

2019-01-29, 1397/11/09

Registrant information

Name

Shahram Gholamrezaei Darsara

Name of organization / entity

Azad University

Country

Iran (Islamic Republic of)

Phone

+98 13 3342 3308

Email address

gholamrezaei@iaurasht.ac.ir

Recruitment status

Recruitment complete

Funding source

All costs were funded solely by researcher

Expected recruitment start date

2015-07-01, 1394/04/10

Expected recruitment end date
2015-10-02, 1394/07/10
Actual recruitment start date
2015-08-06, 1394/05/15
Actual recruitment end date
2015-08-23, 1394/06/01
Trial completion date
2015-08-23, 1394/06/01

Scientific title
The effect of garlic supplementation on response to inflammatory and enzymatic indices of oxidative stress after an intense aerobic and resistance exercise in young inactive females

Public title
The effect of garlic supplementation on blood indices
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
Not have history of certain diseases Having complete health based on the results of medical examinations Lack of a history of diseases by the consumption of garlic not consumption of herbal or drug supplements and Anti-inflammatory drugs or steroids during previous 3 months Not have regular exercise training during previous 3 months
Exclusion criteria:
Gastritis Blood coagulation disease Garlic allergy
Age
From **18 years** old to **30 years** old
Gender
Female

Phase
3
Groups that have been masked
No information
Sample size
Target sample size: **40**
Actual sample size reached: **39**
Randomization (investigator's opinion)
Randomized
Randomization description
Out of 60 volunteers, 40 eligible subjects were randomly assigned (Random number table) to four groups: Aerobic exercise, garlic supplement Aerobic exercise, lactose placebo Resistance exercise, garlic supplement Resistance exercise, lactose placebo
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethic's committee of Guilan University of Medical Sciences
Street address
Gas Sq. Shahid Beheshti Ave.
City
Rasht
Province
Guilan
Postal code
41938-93345
Approval date
2015-12-28, 1394/10/07
Ethics committee reference number
IR.GUMS.REC.1394.385 پ: شماره - کد/ 3/132/4313

Health conditions studied

1

Description of health condition studied
Sedentary
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
hs-CRP
Timepoint
24 hours before intervention (Garlic supplementation), before the exercise protocol, Immediately after the exercise protocol and 24 hours after the exercise protocol
Method of measurement
Laboratory test techniques (Seroimmunological method)

2

Description
IL-6
Timepoint
24 hours before intervention (Garlic supplementation), before the exercise protocol, Immediately after the exercise protocol and 24 hours after the exercise protocol
Method of measurement
Laboratory test techniques (ELISA)

3

Description
WBC
Timepoint

24 hours before intervention (Garlic supplementation), before the exercise protocol, Immediately after the exercise protocol and 24 hours after the exercise protocol

Method of measurement

Laboratory test techniques (Use the cell counter device)

4

Description

ALT

Timepoint

24 hours before intervention (Garlic supplementation), before the exercise protocol, Immediately after the exercise protocol and 24 hours after the exercise protocol

Method of measurement

Labratorary test techniques (Enzymatic method with auto analyzer)

5

Description

AST

Timepoint

24 hours before intervention (Garlic supplementation), before the exercise protocol, Immediately after the exercise protocol and 24 hours after the exercise protocol

Method of measurement

Labratorary test techniques (Enzymatic method with auto analyzer)

6

Description

CPK

Timepoint

24 hours before intervention (Garlic supplementation), before the exercise protocol, Immediately after the exercise protocol and 24 hours after the exercise protocol

Method of measurement

Labratorary test techniques (Enzymatic method with auto analyzer)

7

Description

LDH

Timepoint

24 hours before intervention (Garlic supplementation), before the exercise protocol, Immediately after the exercise protocol and 24 hours after the exercise protocol

Method of measurement

Labratorary test techniques (Enzymatic method with auto analyzer)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: One session intense aerobic exercise. Aerobic exercise including Bruce protocol test on treadmill combine with consumption of garlic tablet 500 mg , twice a day and for 2 weeks

Category

Prevention

2

Description

Intervention group 2: One session intense aerobic exercise. Aerobic exercise including Bruce protocol test on treadmill combine with consumption of lactose capsule 500 mg , twice a day for 2 weeks

Category

Prevention

3

Description

Intervention group 3: One session intense aerobic exercise. Resistance exercises were done by bodybuilding machine as exhausting of 70, 75 and 80% and the rest time for each station was 30 seconds and between each set was 3 minutes combine with consumption of garlic tablet 500 mg , twice a day and for 2 weeks.

Category

Prevention

4

Description

Intervention group 4: One session intense aerobic exercise. Resistance exercises were done by bodybuilding machine as exhausting of 70, 75 and 80% and the rest time for each station was 30 seconds and between each set was 3 minutes combine with consumption of lactose capsule 500 mg , twice a day for 2 weeks.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Guilan University

Full name of responsible person

Shahram Gholamrezaei darsara

Street address

Amir apartment, Afshin alley, Moin alley, Ansari Ave

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Rasht

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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Guilan University
Full name of responsible person
Shahram Gholamrezaei darsara
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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
Guilan University
Proportion provided by this source
100
Public or private sector
Public
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 - Rasht Branch
Full name of responsible person
Shahram Gholamrezaei darsara
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available
Justification/reason for indecision/not sharing IPD
No decision has been made yet.
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
No - There is not a plan to make this available
Informed Consent Form
No - There is not a plan to make this available
Clinical Study Report
No - There is not a plan to make this available
Analytic Code
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available