

Clinical Trial Protocol

Iranian Registry of Clinical Trials

08 Jul 2026

Effect of Consuming vitamin C during High -Intensity Aerobic Training on Catalase and Nitric Oxide activity in Hypertension Men

Protocol summary

Registration timing: **registered_while_recruiting**

Study aim

To determine The effect of high intensity aerobic training and vitamin C intake on asymmetric myeloperoxidase, asymmetric dimethyl arginine, nitric oxide and catalase in hypertensive men

Last update: **2020-02-01, 1398/11/12**

Update count: **0**

Registration date

2020-02-01, 1398/11/12

Design

A randomized clinical trial study with a control group (pre-test-post-test) included three intervention , and A control group

Registrant information

Name

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Name of organization / entity

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Iran (Islamic Republic of)

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Settings and conduct

Forty hypertensive men 30-45 from Urmia Medical Centers in a double-blind study (researchers and experimenters are unaware of vitamin C intake) were randomly assigned to three intervention groups and one control group. The aim of this study was to evaluate the effect of moderate to high intensity aerobic exercise on vitamin C in improving blood pressure. Exercises will be 10 weeks; three nonconsecutive days per week with a 75% HRmax, with 20 min.

Recruitment status

Recruitment complete

Funding source

Participants/Inclusion and exclusion criteria

- no experience in exercise training - 30-45 yr ranges - no smoking - Hypertension syndrome - Exclusion criteria - Kidney, respiratory, diabetes and gastrointestinal problems - Use of antioxidant vitamins during research - No regular attendance during trainin

Expected recruitment start date

2020-01-30, 1398/11/10

Expected recruitment end date

2020-02-09, 1398/11/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Intervention groups

Exercise training Vitamin C 500 mg/d Groups: training+vitamin C Training+placebo Vitamin C Control (without intervention)

Scientific title

Effect of Consuming vitamin C during High -Intensity Aerobic Training on Catalase and Nitric Oxide activity in Hypertension Men

Main outcome variables

Catalase and Nitric oxide.

Public title

Aerobic Training and vitamin C on Hypertension

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191225045892N1**

Registration date: **2020-02-01, 1398/11/12**

Purpose

Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Hypertention age 30 - 40 years not smoker not exercise
Exclusion criteria:
kidney disease pulmonary disease

Age
From **30 years** old to **45 years** old

Gender
Male

Phase
3

Groups that have been masked

- Participant
- Investigator
- Data analyser

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description
The present study is semi quasi-experimental study, performed as double-blind randomized clinical trial and controlled with placebo, at pretest and posttest design with control group.

Blinding (investigator's opinion)
Double blinded

Blinding description
The present study is semi quasi-experimental study, performed as double-blind randomized clinical trial and controlled with placebo, at pretest and posttest design with control group.

Placebo
Used

Assignment
Factorial

Other design features
The present study is semi quasi-experimental study, performed as double-blind randomized clinical trial and controlled with placebo, at pretest and posttest design with control group. The statistical population of this research consisted of middle-aged men within the age range of 30-45 yrs. with hypertension who had referred to the healthcare centers in Urmia city in 2017.

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
IR.MUK.REC.1397.5018
Street address
adab street
City
sanandej

Province
Kurdistan
Postal code
6618634683

Approval date
2018-04-14, 1397/01/25

Ethics committee reference number
IR.MUK.REC.1397.5018

Health conditions studied

1

Description of health condition studied
Hypertension

ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Independent variables: aerobic exercise - vitamin C supplementation The dependent variables: Catalase, NO, myeloperoxidase, and asymmetric dimethyl arginine Systolic and diastolic blood pressure

Timepoint
The dependent variable: Once before exercise and supplementation intervention (pretest) The second time after 10 weeks of aerobic exercise and vitamin C supplementation (posttest)

Method of measurement
Systolic and diastolic blood pressure Catalase, NO, myeloperoxidase, and asymmetric dimethyl arginine in the serum

Secondary outcomes

empty

Intervention groups

1

Description
1- Exercise training- Vitamin C 2- Exercise training- placebo 3- Vitamin C and 4- Placebo (no intervention)

Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Medical centers of Urmia
Full name of responsible person
Kamal Azizbeigi
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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?
No
Title of funding source
Ailin Alishahi
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
Persons

Person responsible for general inquiries

Contact

Name of organization / entity
Islamic Azad University
Full name of responsible person
Kamal Azizbeigi

Position
2. Ph.D in Exercise Physiology
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)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All information related to the present study is available in movie, photo, and data as an Excel file.

When the data will become available and for how long

2021

To whom data/document is available

Everyone

Under which criteria data/document could be used

Research

From where data/document is obtainable

Islamic Azad University, Sanandaj, Iran.

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

Islamic Azad University, Sanandaj, Iran.

Comments