

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jul 2026

The effect of Vitamins C and E supplementation on muscle damage, oxidative stress and performance in athlete women

Protocol summary

Summary

The purpose of this double blind randomized clinical trial is evaluation the effect of vitamin C and E supplementation on muscle damage, oxidative stress and performance in female athletes. In this study, 64 trained female athletes who meet inclusion criteria are randomly assigned to one of four groups, a: vitamin C (250 mg/day), b: vitamin E (400 IU) ,c: vitamin C + vitamin E and control (placebo). 10cc blood sample will be collected at the beginning and end of intervention to assess the indicators related to muscle damage(AST, CK, LDH, Mb) Indicator of oxidative stress(MDA). Harvard Step Test will be done to measure maximal oxygen consumption for performance and Food intake will be assessed by food records in first and the end intervention.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201111095062N2**

Registration date: **2012-10-07, 1391/07/16**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2012-10-07, 1391/07/16

Registrant information

Name

Reza Ghiasvand

Name of organization / entity

Isfahan University of Medical Sciences

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Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Isfahan University of Medical Sciences

Expected recruitment start date

2011-09-04, 1390/06/13

Expected recruitment end date

2011-12-11, 1390/09/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of Vitamins C and E supplementation on muscle damage, oxidative stress and performance in athlete women

Public title

The effect of Vitamins C and E supplementation in athlete women

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: willingness to participate in the study; having 3 to 6 years experience in sports; age between 45-20 years; a complete physical health; the use of antioxidant supplements in the previous month; lack of pregnancy and lactation Exclusion criteria: any disease occurring; occurring in pregnancy; unwillingness to continue the study; addiction to alcohol, drugs and cigarettes; less than 70% compliance

Age

From **20 years** old to **45 years** old

Gender

Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **60**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Double blinded

Blinding description

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Isfahan University of Medical Sciences

Street address
Hezarjirib St, Isfahan University

City
Isfahan

Postal code

Approval date
2012-06-13, 1391/03/24

Ethics committee reference number
391097

Health conditions studied

1

Description of health condition studied
Sports Nutrition

ICD-10 code
Z00.8

ICD-10 code description
Other general examinations

Primary outcomes

1

Description
Myoglobin

Timepoint
Before and after Intervention

Method of measurement
ELISA, µg/L

2

Description
Aspartate Transaminase

Timepoint
Before and after Intervention

Method of measurement
Enzymatic Photometric Method, U/L

3

Description
Lactate dehydrogenase

Timepoint
Before and after Intervention

Method of measurement
Colorimetric enzymatic method, U/L

4

Description
Malondialdehyde

Timepoint
Before and after Intervention

Method of measurement
Spectrophotometry, ng/ml

5

Description
Weight

Timepoint
Early intervention

Method of measurement
Medical scales with stadiometer, Kg

6

Description
Height

Timepoint
Early intervention

Method of measurement
Medical scales with stadiometer, cm

7

Description
VO2 max

Timepoint
Before and after Intervention

Method of measurement
Harvard step test, ml.kg-1.min-1

8

Description
Creatine kinase

Timepoint
Before and after Intervention

Method of measurement
Colorimetric method, U/L

9

Description

Subcutaneous fat

Timepoint

Before and after Intervention

Method of measurement

Caliper, Percentage

Secondary outcomes

1

Description

Physical Activity

Timepoint

During the study

Method of measurement

Questionnaire-(Met.min/Week)

2

Description

Get food

Timepoint

Beginning and end of intervention (weeks 4)

Method of measurement

Questionnaire and Software N4

Intervention groups

1

Description

Group control (placebo): Consumption of both placebo vitamins with meals for a month

Category

Other

2

Description

Group3: Supplementation with 250 mg of vitamin C + vitamin supplements E 400 IU with meals for a month

Category

Other

3

Description

Group 1: Supplementation with 250 mg of vitamin C+ Placebo vitamin E with meals for a month

Category

Other

4

Description

Group 2: Supplementation with Vitamin E 400 IU +Placebo vitamin C with meals for a month

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Fitness and aerobics center in Isfahan

Full name of responsible person

Dr. Daneshvar

Street address

Takhti Crossroads, Fitness and aerobics center in Isfahan

City

Isfahan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Isfahan University of Medical Sciences

Full name of responsible person

Dr. Peyman Adibi

Street address

Hezarjarib St, Isfahan University of Medical Sciences

City

Isfahan

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Isfahan University of Medical Sciences

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

Isfahan University of Medical Sciences

Full name of responsible person

Dr.Reza Ghiasvand

Position

Ph.D. in Nutritional Sciences

Other areas of specialty/work

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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