Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 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

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Reza Ghiasvand
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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
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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