

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

The Effect of Short -Term Dark Chocolate Supplementation on Total Antioxidant Capacity, Malondialdehyde , Hydrogen Peroxide, Uric Acid and Bilirubin fallowing to intensive exercise.

Protocol summary

Summary

Aim of this research is investigation of the effect of acute dark chocolate supplementation pre intensive exercise on Total Antioxidant Capacity, MDA, H₂O₂, uric acid and bilirubin in athlete's girls. In this study, 16 subjects were selected from among volunteers who have at least 2 years of regular exercise, lack chronic disease and food allergies. After informed consent, subjects were divided into two experimental (dark chocolate consumption) and control (no consumption of dark chocolate) groups. The experimental group consumed dark chocolate for 3 days (80 mg per day), and a control group not consumed any supplement. After three days, both groups participated in the intensive exercise. Venous blood samples were taken in the three steps which include before intensive exercise, immediately after exercise and one hour after exercise for the measurement of MDA, H₂O₂, TAC, bilirubin and uric acid.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015031521481N1**
Registration date: **2015-04-25, 1394/02/05**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-04-25, 1394/02/05

Registrant information

Name

Behrouz Baghaiee

Name of organization / entity

Mohaghegh Ardabili University

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Recruitment status

Recruitment complete

Funding source

Alzahra University

Expected recruitment start date

2014-10-13, 1393/07/21

Expected recruitment end date

2014-11-06, 1393/08/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Effect of Short -Term Dark Chocolate Supplementation on Total Antioxidant Capacity, Malondialdehyde , Hydrogen Peroxide, Uric Acid and Bilirubin fallowing to intensive exercise.

Public title

Effect of Dark Chocolate Supplementation on Antioxidant in Athletes Girls

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Having at least 2 years participating in regular exercises, being female, not having chronic diseases and food allergies Exclusion criteria: Having menstruation

Age

From **22 years** old to **30 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **16**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Alzahra University

Street address

Alzahra University, Vanak Street, Tehran, Iran

City

Tehran

Postal code

Approval date

2014-10-12, 1393/07/20

Ethics committee reference number

93.7.205

Health conditions studied

1

Description of health condition studied

immunological

ICD-10 code

R76

ICD-10 code description

Other abnormal immunological findings in serum

Primary outcomes

1

Description

Uric Acid

Timepoint

pre exercise, immediately after exercise, 1 h after

exercise

Method of measurement

autoanalyzer

2

Description

Bilirubin

Timepoint

pre exercise, immediately after exercise, 1 h after exercise

Method of measurement

autoanalyzer

3

Description

Hydrogen Peroxide

Timepoint

pre exercise, immediately after exercise, 1 h after exercise

Method of measurement

autoanalyzer

4

Description

Total Antioxidant Capacity

Timepoint

pre exercise, immediately after exercise, 1 h after exercise

Method of measurement

autoanalyzer

5

Description

Malondialdehyde

Timepoint

pre exercise, immediately after exercise, 1 h after exercise

Method of measurement

autoanalyzer

Secondary outcomes

empty

Intervention groups

1

Description

The experimental group consumed three days (daily 80 grams) dark chocolate. After three days (before exercise), blood samples were taken. Then participated in the intensive exercise. venous blood samples were taken immediately and 1 h after exercise.

Category

Prevention

2

Description

The control group did not consumption supplements. blood samples were taken before exercise. Then participated in the intensive exercise.venous blood samples were taken immediately and 1 h after exercise.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Alzahra University

Full name of responsible person

Nasibeh Dowlat Abadi Farahani

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Alzahra University, Vanak Street, Tehran, Iran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Sciences Vice Chancellor for Research of Alzahra University

Full name of responsible person

Dr Ensieh Zahedi

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Alzahra University,Vanak Street, Tehran, Iran

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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

Sciences Vice Chancellor for Research of Alzahra University

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

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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