Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Effect of two-week High-impact Aerobic training and caffeine plus Ubiquinone supplementation on serum total anti-oxidant capacity and malondialdehyde in female athletes following once-session exhaustive training

Protocol summary

Summary

Present study will perform in order to determine the effect of two-week High-impact Aerobic training and caffeine plus Ubiquinone supplementation on serum total anti-oxidant capacity and malondialdehyde in female athletes following once-session exhaustive training. Therefore, thirty-two elite female Aerobics athletes (age 20-28 years) will participate in a quasi-experimental repeated measured and double-blind design. The subjects will allocate in four randomized homogeneous groups. Placebo (Maltodexterine intake: 11 mg/kg/day), supplement group 1 (Caffeine intake: 6 mg/kg/day plus 5 mg/kg/day maltodextrine), supplement group 2 (Coenzyme Q10 intake: 5 mg/kg/day Q10 plus 6 mg/kg/day maltodexterine), supplement group 3 (Coenzyme Q10 plus Caffeine intake: 5 mg/kg/day Q10 plus 6 mg/kg/day Caffeine). All subjects will intake their capsules two times by day during Aerobics training protocol (11 exercise sessions) for two weeks. Blood samples will taken at three stages (30 minutes before first Aerobics session, 30 minutes before last Aerobics session, and 18- 24 hours after supplementation and training protocol). Antioxidant factors (serum total anti-oxidant capacity and malondialdehyde: TAC, MDA) will determine for all subjects.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201206204663N10**
Registration date: **2013-07-03, 1392/04/12**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2013-07-03, 1392/04/12

Registrant information

Name
Afshar Jafari
Name of organization / entity
University of Tabriz
Country
Iran (Islamic Republic of)
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ajafari@tabrizu.ac.ir

Recruitment status

Recruitment complete

Funding source

University of Tabriz

Expected recruitment start date

2012-12-24, 1391/10/04

Expected recruitment end date

2013-01-29, 1391/11/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of two-week High-impact Aerobic training and caffeine plus Ubiquinone supplementation on serum total anti-oxidant capacity and malondialdehyde in female athletes following once-session exhaustive training

Public title

Anti-oxidant effect of Caffeine-Q10 supplementation

Purpose

Basic scienece

Inclusion/Exclusion criteria

Inclusion: Female; 20-28 year; healthy; Aerobics athletes; BMI <25; without any anti-inflammatory or medical drug such as caffeine >100 mg/day (during 6 months prior to the study) Exclusion: Diseases; Injuries; Uncontrolled intake of anti-inflammatory drugs during the period; Uncontrolled intake of stimulants during the period;

Age

From **20 years** old to **28 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **32**

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

Tabriz University of Medical Sciences

Street address

Golgasht St. Daneshgah St. Tabriz, East Azerbaijan, Iran.

City

Tabriz

Postal code

Approval date

2013-01-21, 1391/11/02

Ethics committee reference number

91190

Health conditions studied

1

Description of health condition studied

Exercise-induced physiological stress

ICD-10 code

Y93: Z71.3

ICD-10 code description

Drug or medicament, unspecified

Primary outcomes

1

Description

Malondialdehyde

Timepoint

30 minutes before first Aerobics session; 30 minutes before last Aerobics session; and 18- 24 hours after supplementation and training protocol

Method of measurement

spectrophotometry

2

Description

Anti-oxidant capacity

Timepoint

30 minutes before first Aerobics session; 30 minutes before last Aerobics session; and 18- 24 hours after supplementation and training protocol

Method of measurement

ferric reducing ability of plasma (frap)

Secondary outcomes

1

Description

Body Temperature

Timepoint

30 minutes before every training session

Method of measurement

Thermometer

2

Description

Blood Presure

Timepoint

30 minutes before every trainig session

Method of measurement

Aneroid blood pressure measurement

Intervention groups

1

Description

The subjects in placebo group will intake 11 mg/kg/day maltodexterine for 2 weeks (11 sessions).

Category

Placebo

2

Description

The subjects in Ubiquinone group will intake 5 mg/kg/day

Ubiquinone plus 6 mg/kg/day maltodexterine for 2 weeks (11 sessions).

Category

Treatment - Drugs

3

Description

The subjects in Caffeine group will intake 6 mg/kg/day caffeine plus 5 mg/kg/day maltodexterine for 2 weeks (11 sessions).

Category

Treatment - Drugs

4

Description

The subjects in CaQ10 group will intake 6 mg/kg/day Caffeine plus 5 mg/kg/day Ubiquinone for 2 weeks (11 sessions).

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Athletics Board of Tabriz Fitness

Full name of responsible person

Dr. Afshar Jafari

Street address

City

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Tabriz

Full name of responsible person

Dr. Rasoul Mohammad Rezaei

Street address

29 Bahman Ave. University of Tabriz, Faculty of Physical Education and Sport Sciences

City

Tabriz

Grant name

Grant code / Reference number

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

Yes

Title of funding source

University of Tabriz

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

University of Tabriz

Full name of responsible person

Dr. Afshar Jafari

Position

PH.D/ Associate professor of Exercise Physiology

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