

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

01 Jul 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 (Maltodextrine 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 maltodextrine), 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)

###### Phone

+98 41 1339 3251

###### Email address

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 science

### **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 Pressure

#### **Timepoint**

30 minutes before every training session

#### **Method of measurement**

Aneroid blood pressure measurement

## **Intervention groups**

### **1**

#### **Description**

The subjects in placebo group will intake 11 mg/kg/day maltodextrine 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 maltodextrine 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 maltodextrine 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*