

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Effect of two-week high-impact Aerobics training and Caffeine plus Coenzyme Q10 supplementation on exercise-induced response of capillary lactate and some serum enzymes in female athletes

#### Protocol summary

##### Summary

Present study will perform in order to determine the effect of two weeks high-impact Aerobics training and Caffeine plus Coenzyme Q10 supplementation on exercise-induced response of capillary lactate and some serum enzymes in female athletes. 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 allocated 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). Biochemical markers (Creatine Kinase and Lactate Dehydrogenase: CK, LDH) and Capillary lactate will determine for all subjects.

#### General information

##### Acronym

CafQ10Fa2012

##### IRCT registration information

IRCT registration number: **IRCT201305124663N13**

Registration date: **2013-06-17, 1392/03/27**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2013-06-17, 1392/03/27

##### 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

2012-12-30, 1391/10/10

##### 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 Aerobics training and Caffeine plus Coenzyme Q10 supplementation on exercise-induced response of capillary lactate and some serum enzymes in female athletes

##### Public title

Anti-fatigue 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

##### **City**

Tabriz

##### **Postal code**

#### **Approval date**

2013-01-21, 1391/11/02

#### **Ethics committee reference number**

91193

## **Health conditions studied**

### **1**

#### **Description of health condition studied**

Exercise-induced physiological stress

#### **ICD-10 code**

Y57.9

#### **ICD-10 code description**

Drug or medicament, unspecified

## **Primary outcomes**

### **1**

#### **Description**

Total Serum Creatine kinase (CK)

#### **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**

photometric methods with commercial kits (Bionik kit)

### **2**

#### **Description**

Lactate Dehydrogenase

#### **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**

photometric methods with commercial kits (Bionik kit)

### **3**

#### **Description**

Capillary Lactate

#### **Timepoint**

Before first and last session and after last session

#### **Method of measurement**

Scot lactometer

## **Secondary outcomes**

### **1**

#### **Description**

Blood Pressure

#### **Timepoint**

30 minutes before every training session

#### **Method of measurement**

Aneroid blood pressure measurement

### **2**

#### **Description**

Body Temperature

#### **Timepoint**

30 minutes before every training session

#### **Method of measurement**

Thermometer

## **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 Q10 group will intake 5 mg/kg/day Q10 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 Q10 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**

University of Tabriz

##### **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**

#### **Street address**

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

#### **City**

Tabriz

#### **Postal code**

#### **Phone**

+98 41 1339 3251

#### **Fax**

#### **Email**

ajafari@tabrizu.ac.ir

#### **Web page address**

## **Person responsible for scientific inquiries**

### **Contact**

#### **Name of organization / entity**

University of Tabriz

#### **Full name of responsible person**

Dr. Afshar Jafari

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**City**

Tabriz

**Postal code****Phone**

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**Fax****Email****Web page address****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*