

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

26 Jun 2026

### The effect of Quercetin supplementation on the response of C-reactive protein, Interleukin 6 and Creatine kinase after a boring swimming session in teenage girls.

#### Protocol summary

##### Study aim

The effect of Quercetin supplementation on some inflammatory factors and Creatine kinase in swimmer girls

##### Design

This study is a parallel, double-blind clinical trial. The sample size includes 20 elite female swimmers in Tehran. People are divided into two groups of 10 people. They take 500 mg of quercetin or placebo supplements daily for 14 days, morning and night. After 14 days, all participants take a boring swim test. People then do a crawl swim equal to or greater than 85 percent of their maximum heart rate until they are tired. Blood samples are collected immediately after exercise. .

##### Settings and conduct

Due to the fact that the starch powder and quercetin supplements are placed in exactly the same capsule, participants and researchers are not aware of the type of supplement they receive. The test is done in Shahrbanoo private pool. Blood sampling is done by the blood sampling expert of Rastegarian laboratory.

##### Participants/Inclusion and exclusion criteria

14 to 16 years old girls swimmers who are physically healthy (no history of any cardiovascular disease, no history of any specific disease or neuropsychiatric illness), no allergies to drugs and medications, no dietary supplements, medication regimen in the last 3 months, at least 3 years of professional swimming experience.

##### Intervention groups

Athletes after filling in the individual consent form to participate in the study are randomly divided into two groups of 10. Intervention group (14 days of quercetin supplementation) control group (14 days of taking placebo capsules).

##### Main outcome variables

Interleukin 6, C-reactive protein, Creatine kinase

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20200804048307N1**

Registration date: **2020-09-21, 1399/06/31**

Registration timing: **retrospective**

Last update: **2020-09-21, 1399/06/31**

Update count: **0**

##### Registration date

2020-09-21, 1399/06/31

##### Registrant information

##### Name

Ensieh Ahmadpour

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 2257 7532

##### Email address

ncahmadpour47@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2020-07-30, 1399/05/09

##### Expected recruitment end date

2020-08-15, 1399/05/25

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

## Scientific title

The effect of Quercetin supplementation on the response of C-reactive protein, Interleukin 6 and Creatine kinase after a boring swimming session in teenage girls.

## Public title

Effect of Quercetin supplementation on inflammatory and Creatinine kinase responses after a swimming session in girls

## Purpose

Prevention

## Inclusion/Exclusion criteria

### Inclusion criteria:

Willingness to participate in the study Female gender Age range 14 to 16 years old Do not use antioxidant supplements and anti-inflammatory drugs in the last 6 months At least 3 years of swimming experience

### Exclusion criteria:

Failure to sign informed consent Injury Smoking and alcohol History of cardiovascular and respiratory diseases

## Age

From **14 years** old to **16 years** old

## Gender

Female

## Phase

3

## Groups that have been masked

- Participant
- Investigator

## Sample size

Target sample size: **20**

## Randomization (investigator's opinion)

Not randomized

## Randomization description

## Blinding (investigator's opinion)

Double blinded

## Blinding description

Starch powder and Quercetin supplement are placed inside the capsules of the same shape. Participants and researchers are not aware of the type of capsule received. As a result, the study is performed in a double-blind manner.

## Placebo

Used

## Assignment

Parallel

## Other design features

The medical team is expected to be present at the pool site during the swim test.

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

Name of ethics committee

Research Ethics Committee of the Institute of Physical Education and Sports Science

#### Street address

No. 3, Fifth Alley, Mir Emad St., Ostad Motahhari St.

#### City

Tehran

#### Province

Tehran

#### Postal code

1587958711

#### Approval date

2020-07-28, 1399/05/07

#### Ethics committee reference number

IR.SSRC.REC.1399.044

## Health conditions studied

### 1

#### Description of health condition studied

Girls Swimmers

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

Creatine Kinase

#### Timepoint

Before taking the supplement, 14 days after taking the supplement ,after a boring swim

#### Method of measurement

Pars Azmon Laboratory Kits No. 90004 Using Autoanalyzer (USA)

### 2

#### Description

C-reactive protein

#### Timepoint

Before taking the supplement, 14 days after taking the supplement ,after a boring swim

#### Method of measurement

Biosystem kits, made in Spain

### 3

#### Description

Interleukin 6

#### Timepoint

Before taking the supplement, 14 days after taking the supplement ,after a boring swim

#### Method of measurement

Eliza kit made by the French company Diaclone

## Secondary outcomes

### 1

#### Description

Maximum oxygen consumption(VO2max)

#### **Timepoint**

Before performing boring swimming

#### **Method of measurement**

Cooper test (2400 meters in 12 minutes) and using the formula

## **Intervention groups**

### **1**

#### **Description**

Intervention group: Includes ten swimmers who take Quercetin supplements in the form of 500 mg capsules for two days, morning and night. During this period, they continue their normal life.(Solgar Quercetin , made in the USA).

#### **Category**

Prevention

### **2**

#### **Description**

Control group: includes ten swimmers who take placebo capsules for 14 days in the form of capsules containing starch in the morning and night. During this period, they continue their normal life. (Daro Gostar placebo capsules, made in Iran)

#### **Category**

Placebo

## **Recruitment centers**

### **1**

#### **Recruitment center**

##### **Name of recruitment center**

Shahrbanoo cultural and sports complex

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

Ensieh Ahmadpour

##### **Street address**

Niloufar alley, Azadi street, Shahr ziba squer

##### **City**

Tehran

##### **Province**

Tehran

##### **Postal code**

1487765681

##### **Phone**

+98 21 4436 1814

##### **Email**

ncahmadpour47@gmail.com

## **Sponsors / Funding sources**

### **1**

#### **Sponsor**

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

Islamic Azad University

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

Sina Forouzes

#### **Street address**

Shohada Hesarak Boulevard, University Square, at the end of Sattari Highway

#### **City**

Tehran

#### **Province**

Tehran

#### **Postal code**

1477893855

#### **Phone**

+98 21 4486 9827

#### **Email**

Basic\_fa@srbiau.ac.ir

#### **Grant name**

#### **Grant code / Reference number**

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

No

#### **Title of funding source**

Vice Chancellor for Research, Faculty of Literature, Tehran University of Research Sciences

#### **Proportion provided by this source**

100

#### **Public or private sector**

Private

#### **Domestic or foreign origin**

Domestic

#### **Category of foreign source of funding**

*empty*

#### **Country of origin**

#### **Type of organization providing the funding**

Persons

## **Person responsible for general inquiries**

#### **Contact**

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

Islamic Azad University

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

Ensieh Ahmadpour

##### **Position**

University professor

##### **Latest degree**

Master

##### **Other areas of specialty/work**

Physiology

##### **Street address**

Unit 4, No. 14, Farvardin Alley, Delbkhah Crossroads, Pasdaran Street

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## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Islamic Azad University

**Full name of responsible person**

Mandana Gholami

**Position**

Associate Professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Exercise physiology

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## Person responsible for updating data

### Contact

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**Full name of responsible person**

Ensieh Ahmadpour

**Position**

University professor

**Latest degree**

Master

**Other areas of specialty/work**

Physiology

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ncahmadpour47@gmail.com

## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

**Study Protocol**

Yes - There is a plan to make this available

**Statistical Analysis Plan**

Undecided - It is not yet known if there will be a plan to make this available

**Informed Consent Form**

Yes - There is a plan to make this available

**Clinical Study Report**

Undecided - It is not yet known if there will be a plan to make this available

**Analytic Code**

Undecided - It is not yet known if there will be a plan to make this available

**Data Dictionary**

Not applicable

**Title and more details about the data/document**

All data after unidentifiable individuals

**When the data will become available and for how long**

3 months after the publication of the article

**To whom data/document is available**

Participants in the study can be informed of the results and documentation in detail to know how the intervention works so that they can use the protocols if they are useful. Researchers can also access documents to use the results in similar research.

**Under which criteria data/document could be used**

The use of data for citation with reference to the source is unrestricted.

**From where data/document is obtainable**

Send Ensieh Ahmadpour an email  
ncahmadpour47@gmail.com

**What processes are involved for a request to access data/document**

Applicants will send an e-mail with the subject of the request to the address mentioned. As soon as they receive the e-mail, a form will be sent to them that the details of the people and the reason for their request will be recorded in this form. The documents will be provided to people as a PDF file.

**Comments**