

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

03 Jun 2026

### Effect of short-term garlic supplementation in two different dose on total antioxidant capacity and some markers of serum oxidative stress in rest and induced-exercise exhaustive in soccer players

#### Protocol summary

##### Summary

Introduction: Vigorous exercise-induced generation of free radicals lead to oxidative damage in biological macromolecules such as proteins, DNA and lipids. One way to confront the adverse effects of oxidative stress caused by intense exercises is to consume dietary antioxidant supplementation such as garlic. Considering anti-oxidative effects of garlic and its combinations on oxidative stress caused by doing intense exercises, only a few studies have been carried out in this regard. Therefore, this study an attempt to determine the effects of Shuttle run exercise test and short-term garlic supplementation (14 days) on serum Total Antioxidant Capacity (TAC), oxidative stress marker (malondialdehyde, MDA) and cellular damage (Creatine Kinase, CK) in soccer men. Methods: This study will carry out in double-blind quasi-experimental designs on Thirty soccer men (aged 18-23 years, 55-65 ml/kg/min and BMI 20-22 kg/m<sup>2</sup>) who will divide into three random and equal groups: supplement groups (1200 and 2400 mg/day garlic) and placebo group (dextrose). Before and after supplementation period (14-days), all subjects participate in the Shuttle run exhaustive physical activity. Blood samples will be taken in four phases: before and immediately after first exercise test (Before 14-day supplementation); and before and immediately after first exercise test (after 14-day supplementation). The serum total antioxidant capacity (TAC) and Malondialdehyde (MDA) will be determined by FRAP and spectrophotometer, respectively. Creatine kinase changes will be measured by automatic analyzer. The normal data will be analyzed by repeated measure ANOVA, Bonferroni and independent t test at  $\alpha \leq 0.05$ .

#### General information

##### Acronym

GarSoc2012

##### IRCT registration information

IRCT registration number: **IRCT201206204663N11**

Registration date: **2012-07-26, 1391/05/05**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2012-07-26, 1391/05/05

##### 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

Private funding source for thesis

##### Expected recruitment start date

2012-05-21, 1391/03/01

##### Expected recruitment end date

2012-05-30, 1391/03/10

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

## Scientific title

Effect of short-term garlic supplementation in two different dose on total antioxidant capacity and some markers of serum oxidative stress in rest and induced-exercise exhaustive in soccer players

## Public title

Garlic effect on soccer-induced oxidative stress

## Purpose

Basic science

## Inclusion/Exclusion criteria

Inclusion criteria: Male Soccer players (aged 18-23 years, 55-65 ml/kg/min and BMI 20-22 kg/m<sup>2</sup>). Exclusion criteria: chronic diseases, injuries, uncontrolled intake of oxidative supplements or anti-inflammatory drugs and stimulants (such as caffeine ...).

## Age

From **18 years** old to **23 years** old

## Gender

Male

## Phase

N/A

## Groups that have been masked

No information

## Sample size

Target sample size: **30**

## 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

2010-12-26, 1389/10/05

#### Ethics committee reference number

9062

## Health conditions studied

### 1

#### Description of health condition studied

Exercise-induced Oxidative damages

#### ICD-10 code

Y57.9

#### ICD-10 code description

Drug or medicament, unspecified

## Primary outcomes

### 1

#### Description

Total Serum Creatine kinase (CK)

#### Timepoint

Before and after two shuttle run tests

#### Method of measurement

photometric methods with commercial kits (Pars-Azmoon)

### 2

#### Description

Total antioxidant capacity

#### Timepoint

Before and after two shuttle run tests

#### Method of measurement

FRAP

### 3

#### Description

Malondialdehyde

#### Timepoint

Before and after two shuttle run tests

#### Method of measurement

photometric methods

## Secondary outcomes

### 1

#### Description

Peripheral blood leukocytes counts

#### Timepoint

Before and after two shuttle run tests

#### Method of measurement

It will determine by automatic analyzer

## Intervention groups

### 1

#### Description

Before and after 14-days supplementation, each subjects (The placebo and two experiment groups) will participate in shuttle run test.

#### Category

Other

## 2

### Description

Placebo group will intake 1200 mg/day for 14 days.

### Category

Placebo

## 3

### Description

Garlice intake (1200 mg/day for 14 days) in Experiment group 1.

### Category

Treatment - Drugs

## 4

### Description

Garlice intake (2400 mg/day for 14 days) in Experiment group 2.

### Category

Treatment - Drugs

## Recruitment centers

## 1

### Recruitment center

#### Name of recruitment center

The Soccer Board of East Azerbaijan

#### Full name of responsible person

Dr Afshar Jafari

#### Street address

Faculty of physical education & sports sciences,  
University of Tabriz, Tabriz, Iran

#### City

Tabriz

## Sponsors / Funding sources

## 1

### Sponsor

#### Name of organization / entity

Hakim Sabzevari University

#### Full name of responsible person

Dr Afshar Jafari

#### Street address

Iran , khorasan Razavi , Sabzevar , Hakim Sabzevari  
University

#### City

Sabzevar

### Grant name

### Grant code / Reference number

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

Yes

### Title of funding source

Hakim Sabzevari 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

## Person responsible for scientific inquiries

### Contact

#### Name of organization / entity

University of Tabriz

#### Full name of responsible person

Dr Afshar Jafari

#### Position

PhD in Molecular Exercise Physiology

#### Other areas of specialty/work

#### Street address

Faculty of physical education & sports sciences,  
University of Tabriz, Tabriz, Iran.

#### City

Tabriz

#### Postal code

#### Phone

+98 41 1339 3251

#### Fax

#### Email

ajafari@tabrizu.ac.ir

#### Web page address

## Person responsible for updating data

### Contact

## 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*