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/m2) who will divid 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 participat in the Shuttle run exhaustive physical activity. Blood samples will taken in four phases: before and immediately after first exercise test (Before14-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 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-inudced oxidative stress
Purpose
Basic scienece
Inclusion/Exclusion criteria
Inclusion criteria: Male Soccer players (aged 18-23 years,55-65 ml/kg/min and BMI 20-22 kg/m2). 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 Cereatine kinase (CK)
Timepoint
Before and after two shattel run tests
Method of measurement
photometric methods with commercial kits (Pars-Azmoon)

2

Description
Total antioxidant capacity
Timepoint
Before and after two shattel run tests
Method of measurement
FRAP

3

Description
Malondealdhyde
Timepoint
Before and after two shattel run tests
Method of measurement
photometric methods

Secondary outcomes

1

Description
Peripheral blood leukocytes counts
Timepoint
Befor and after two shatlle run tests
Method of measurement
It will determine by automatic analyzer

Intervention groups

1

Description
Before and after 14-days supplementation, each subjects (The placbo 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