

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The Effects of Short Term Citrulline malate Supplementation on Oxidative Stress Markers and Muscle damage of Trained Soccer Players

Protocol summary

Study aim

The effect of citrulline malate supplementation on oxidative stress

Design

Using a table of random numbers, they are divided into two groups (an intervention group and a control group). The third person is done. And the research team will not be aware of the type of supplement provided. The duration of the intervention for each group will be 7 days, during which the intervention group and the control group will be given 6 grams of citrulline malate.

Settings and conduct

Working in Isfahan and Isfahan University of Medical Sciences

Participants/Inclusion and exclusion criteria

1-Willingness to participate in the study 2. Do not use tobacco and alcohol 3. History of playing football for three years 4. Do not use antioxidant supplements, etc. in the past month 5. Age 18 to 22 years 6. No history of any acute or chronic disease

Intervention groups

The intervention group received 6 grams of citrulline malate supplementation half an hour before exercise and the control group received placebo for 7 days.

Main outcome variables

1. There is a difference between the mean serum MDA in the control group before and after supplementation. 2- There is a difference between the mean serum TAC in the control group before and after the supplementation. 3- There is a difference between the mean serum CAT in the control group before and after the supplementation. 4- There is a difference between the mean serum SOD in the control group before and after supplementation. There is a difference between the mean serum GSH in the control group before and after the supplementation. 6- There is a difference between the mean serum UA in the control group before and after the supplementation. 7- There is a difference between the mean serum LDH in the control group before and after supplementation. 8-

There is a difference between the mean serum CK in the control group before and after the supplementation.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190915044772N1**

Registration date: **2021-02-01, 1399/11/13**

Registration timing: **retrospective**

Last update: **2021-02-01, 1399/11/13**

Update count: **0**

Registration date

2021-02-01, 1399/11/13

Registrant information

Name

Sadegh Mirenayat

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 31 3359 8037

Email address

sadegh.mir1374@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-07-23, 1398/05/01

Expected recruitment end date

2019-09-23, 1398/07/01

Actual recruitment start date

2019-07-23, 1398/05/01

Actual recruitment end date

2019-09-23, 1398/07/01

Trial completion date

2019-12-06, 1398/09/15

Scientific title

The Effects of Short Term Citrulline malate Supplementation on Oxidative Stress Markers and Muscle damage of Trained Soccer Players

Public title

Citrulline Malate Supplementation on Oxidative Stress Markers

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

age18-23years Professional activity history for at least 3 years Do not take antioxidant supplements Satisfaction to participate in the study

Exclusion criteria:

Alcohol and tobacco consumption Having a specific injury or illness Allergies or digestive problems Failure to follow the study

Age

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

Gender

Male

Phase

3

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser

Sample size

Target sample size: **28**

Actual sample size reached: **28**

More than 1 sample in each individual

Actual sample size in each individual: **2**

Before supplementation and after supplementation

Randomization (investigator's opinion)

Randomized

Randomization description

The study is divided into two groups (one intervention group and one control group) using a table of random numbers. Performed by a third party. And the research team will not be aware of the type of supplement provided

Blinding (investigator's opinion)

Double blinded

Blinding description

The subjects were randomly divided into two groups a and b. Supplement and placebo were divided between the two groups without any apparent difference by one of my classmates who was outside the research team and was unaware of the type of supplements. One group received a supplement and the other group received a placebo

Placebo

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics Committee of Isfahan University of Medical Sciences

Street address

hezar jarib

City

Isfahan

Province

Isfahan

Postal code

8413647143

Approval date

2019-01-30, 1397/11/10

Ethics committee reference number

IR.MUI.RESEARCH.REC.1397.373

Health conditions studied**1****Description of health condition studied**

Footballer and oxidative stress

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

1 - Determining and comparing the mean of serum oxidative stress indices in the control and intervention groups, before and after supplementation

Timepoint

First and 7 days later

Method of measurement

Blood samples in the laboratory

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group: Citrulline malate supplement 6 g for 7 days (Karen Company)

Category

Rehabilitation

2

Description

Control group: placebo (malto dextrin) 6 g for 7 days (Karen Company)

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Isfahan Zobahan Cultural and Sports Club

Full name of responsible person

Saeid Azari

Street address

Shfagh Ave

City

Isfahan

Province

Isfahan

Postal code

8413613147

Phone

+98 31 3359 8037

Email

sadegh.mir1374@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Amir Alavi

Street address

hezar jarib

City

Isfahan

Province

Isfahan

Postal code

8413613147

Phone

+98 31 3792 8000

Email

sadegh.mir1374@gmail.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Esfahan University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

amir mansoor alavi

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Nutrition

Street address

hazar jarib

City

esfahan

Province

Isfahan

Postal code

8413613147

Phone

+98 31 3359 8037

Email

am.alavi@nutr.mui.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Amir Alavi

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Nutrition

Street address

hezar jarib

City

Isfahan

Province

Isfahan

Postal code

8413613147

Phone

+98 31 3359 8037

Email

sadegh.mir1374@gmail.com

Person responsible for updating data

Contact

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

sadegh.mirenayat

Position

MSc student

Latest degree

Bachelor

Other areas of specialty/work

Nutrition

Street address

hezar jarib

City

Isfahan

Province

Isfahan

Postal code

8413613147

Phone

+98 31 3359 8037

Email

sadegh.mir1374@gmail.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be 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

Undecided - It is not yet known if there will be 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

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

Title and more details about the data/document

Statistical data in the article

When the data will become available and for how long

After publishing the article

To whom data/document is available

Academics

Under which criteria data/document could be used

article

From where data/document is obtainable

00989133766560

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

call

Comments