

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

The effect of creatine and carnitine supplementation on anaerobic performance, energy metabolism, inflammatory markers, oxidative stress and kidney function in athletes

Protocol summary

Summary

This study was a randomized and single blind clinical trial to determine the effects of creatine and carnitine supplementation on anaerobic performance, energy metabolism (lactic acid, TG), interleukin-6, malondialdehyde, glutathione peroxidase, BUN, blood creatinine and creatinine 24 hour urine in athletes martial. 48 male athletes who have just started this sport at the age between 18 to 30 years, no history of liver disease, cardio - vascular problems, muscular - skeletal, lung, and not receiving protein supplement during the past few months to be reviewed are. A candidate's consent to participate in this study was fulfilled. During the supplementation period (4 weeks) someone with a cold or diarrhea, are excluded. Volunteers randomly divided into 4 groups of 12 people are following: athletes with creatine supplementation (0.3 g / kg / d for 7 days and 0.03 g / kg / d , followed by 21 days); athletes with carnitine supplementation (2 g / d for every 28 days); athletes and carnitine supplementation with creatine supplementation (0.3 g / kg / d for 7 days and 0.03 g / kg / d for 21 days followed by addition 2 g / d for each person for 28 days) and athletes receiving placebo. Beginning and end of the performance indicators anaerobic, lactate, TG, IL-6, malondialdehyde and glutathione peroxidase, BUN, creatinine, and creatinine 24 hour urine were measured.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201203063236N3**
Registration date: **2012-03-14, 1390/12/24**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2012-03-14, 1390/12/24

Registrant information

Name

Zohreh Mazloom

Name of organization / entity

Shiraz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 71 1725 1008

Email address

zmazloom@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

Shiraz University of Medical Sciences

Expected recruitment start date

2011-12-11, 1390/09/20

Expected recruitment end date

2012-01-10, 1390/10/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of creatine and carnitine supplementation on anaerobic performance, energy metabolism, inflammatory markers, oxidative stress and kidney function in athletes

Public title

Effects of creatine supplementation in athletes

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria: male athletes, martial artist who recently have started this exercise. Age between 18 and 30 years, no history of liver disease, cardio - vascular or muscular problems - musculoskeletal, pulmonary, and not receiving any type of protein supplement during the last few months. Exclusion criteria from the study: During the supplementation period, someone with a cold or diarrhea will be excluded

Age

From **18 years** old to **30 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **48**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Shiraz University of Medical Sciences

Street address

Central Medical Building, Zand Avenue, PO Box =978-71345, Shiraz

City

Shiraz

Postal code

1978_71345

Approval date

2011-11-19, 1390/08/28

Ethics committee reference number

5810 - 90 - CT

Health conditions studied

1

Description of health condition studied

Athletes

ICD-10 code

Z10

ICD-10 code description

Routine general health check-up of defined subpopulation

Primary outcomes

1

Description

Anaerobic performance

Timepoint

Before and after intervention

Method of measurement

Menarche bike model E894

2

Description

Triglyceride

Timepoint

Before and after intervention

Method of measurement

Colorimetric method with an autoanalyzer system

3

Description

Lactic Acid

Timepoint

Before and after intervention

Method of measurement

Spectrophotometrically with spectrophotometry

4

Description

interleukin-6

Timepoint

Before and after intervention

Method of measurement

Spectrophotometry with RIA

5

Description

Glutathione peroxidase

Timepoint

Before and after intervention

Method of measurement

ELISA using ELISA kits

6

Description

malondialdehyde

Timepoint

Before and after intervention

Method of measurement

Spectrophotometrically with spectrophotometry

7

Description

Creatinine

Timepoint

Before and after intervention

Method of measurement

Colorimetric method with an autoanalyzer system

8

Description

BUN

Timepoint

Before and after intervention

Method of measurement

Colorimetric method with an autoanalyzer system

9

Description

24-hour urine creatinine

Timepoint

Before and after intervention

Method of measurement

Colorimetric method with an autoanalyzer system

Secondary outcomes

1

Description

Overweight

Timepoint

Before and after intervention

Method of measurement

By Libra

2

Description

Weight loss

Timepoint

Before and after intervention

Method of measurement

By Libra

Intervention groups

1

Description

Placebo (MCC mixed with cellulose) 8 g daily (4 times daily) for 28 days

Category

Placebo

2

Description

Supplementation with creatine and carnitine (0.3 g / kg / d to 7 days, and 0.03 g / kg / d to 21 days followed by addition 2 g/d for every 28 days)

Category

Other

3

Description

20 to 30 grams of creatine monohydrate supplementation (0.3 grams per kilogram of body weight) for 7 days (loading period) 2 to 5 grams to 21 days later (maintain period)

Category

Other

4

Description

Carnitine supplementation 2 g daily for 28 days

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Velayat Sport Center

Full name of responsible person

Amin Azhdari, MSc in Exercise Physiology

Street address

Shiraz, Chamran Blvd, St Niayesh, Velayat Sport

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shiraz university of medical sciences

Full name of responsible person

Dr Mohammad Ali Sahmeddini

Street address

Zand Ave, University of Central Building

City

Shiraz

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Shiraz university of medical sciences

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
School of health & nutrition, Shiraz University of
Medical Sciences
Full name of responsible person
Bahman Panahandeh
Position
MSc student of nutrition
Other areas of specialty/work
Street address
Department of nutrition, School of health &
nutrition, Shiraz University of Medical Sciences
City
Shiraz
Postal code
7153675541
Phone
+98 71172510018
Fax
Email
panahande.b@gmail.com
Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity
Shiraz University of Medical Sciences
Full name of responsible person
Dr. Zohar Mazloom
Position
PhD of nutrition, Assistant professor of nutrition
department
Other areas of specialty/work
Street address
Department of nutrition, School of health & nutrition,
Shiraz University of Medical Sciences
City
Shiraz

Postal code
7153675541
Phone
+98 71 1725 1008
Fax
Email
zohreh_mazloom@yahoo.com
Web page address

Person responsible for updating data

Contact

Name of organization / entity
Shiraz University of Medical Sciences
Full name of responsible person
Bahman Panahandeh
Position
MSc student of nutrition
Other areas of specialty/work
Street address
School of health & nutrition, Shiraz university of
Medical Sciences
City
Shiraz
Postal code
Phone
Fax
Email
panahande.b@gmail.com
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