

Clinical Trial Protocol

Iranian Registry of Clinical Trials

23 Feb 2026

Comparing the effects of supplementation Krstyn, Vitamin C, endothelial function, oxidative stress, exercise performance, Indicators of inflammation and muscle damage in athletes

Protocol summary

Summary

The purpose of this double blind randomized clinical trial is to compare the effects of quercetin supplements, vitamin C and both Vit. C and quercetin composition on endothelial function, oxidative stress, athletic performance, indicators of inflammation and muscle damage in athletes. In this study, 60 athletes from the university student athletes who meet inclusion criteria are randomly assigned into one of the intervention or control groups. The participants in the intervention group will receive 500 mg of quercetin capsules a day or 25 mg of vitamin c or both and placebo groups will receive one capsule (containing lactose) daily for 8 weeks. Athletic performance, body mass index, SVCAM , PAI-1, SICAM-1, E-selectin CRP, traveled distance, time to exhaustion, heart rate, blood lactic acid, IL-1B, IL-2, IL-6, TNF- α , creatine kinase C, aspartate amino transfrase will be measured and compared forbetween the four groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201112055062N4**
Registration date: **2011-12-23, 1390/10/02**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2011-12-23, 1390/10/02

Registrant information

Name

Reza Ghiasvand

Name of organization / entity

Isfahan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 31 1792 2742

Email address

ghiasvand@hlth.mui.ac.ir

Recruitment status

Recruitment complete

Funding source

Isfahan University of Medical Sciences

Expected recruitment start date

2011-11-22, 1390/09/01

Expected recruitment end date

2012-02-20, 1390/12/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the effects of supplementation Krstyn, Vitamin C, endothelial function, oxidative stress, exercise performance, Indicators of inflammation and muscle damage in athletes

Public title

Comparing the effects of supplementation Krstyn, Vitamin C, endothelial function, oxidative stress, exercise performance, Indicators of inflammation and muscle damage in athletes

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria: willingness to participate in the study, male, students of Isfahan University of Medical Sciences, a history of continuous exercise at least 3 years of

experience, the use of antioxidant supplements in the previous month
Exclusion criteria: less than 70% adherence, presence of diseases requiring special treatment

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: **60**

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

Isfahan Regional Bioethics Committee

Street address

Hezargerib street, Isfahan

City

Isfahan

Postal code

00982181745319

Approval date

2011-09-23, 1390/07/01

Ethics committee reference number

390358

Health conditions studied

1

Description of health condition studied

sport medicine

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

VO2max

Timepoint

before and after intervention

Method of measurement

Gas Analyzor

2

Description

traveled distance

Timepoint

before and after intervention

Method of measurement

gaz analysor

3

Description

time to reach fatigue

Timepoint

before and after intervention

Method of measurement

Gas Analyzor

4

Description

heart rate

Timepoint

before and after intervention

Method of measurement

Gas Analyzor

5

Description

SVCAM

Timepoint

before and after intervention

Method of measurement

Elisa

6

Description

PAI-1

Timepoint

before and after intervention

Method of measurement

Elisa

7

Description

SICAM-1

Timepoint

before and after intervention

Method of measurement

Elisa

8

Description

E-selectin

Timepoint

before and after intervention

Method of measurement

Elisa

9

Description

crp

Timepoint

before and after intervention

Method of measurement

elisa

10

Description

F2-Isoprostane

Timepoint

before and after intervention

Method of measurement

elisa

11

Description

blood lactic acid

Timepoint

before and after intervention

Method of measurement

lactometer

12

Description

IL-1B

Timepoint

before and after intervention

Method of measurement

Elisa

13

Description

IL-2

Timepoint

before and after intervention

Method of measurement

elisa

14

Description

IL-6

Timepoint

before and after intervention

Method of measurement

Elisa

15

Description

TNF- α

Timepoint

before and after intervention

Method of measurement

Elisa

16

Description

CK

Timepoint

before and after intervention

Method of measurement

Chemical coloremtric

17

Description

ASP

Timepoint

before and after intervention

Method of measurement

PHOTOMETRIC

Secondary outcomes

empty

Intervention groups

1

Description

Control Group: Group 4: 1 capsule of 500 mg Krstyn placebo tablet daily and a placebo vitamin C tablet

Category

Treatment - Drugs

2

Description

Intervention group: Group 1: 1 capsule of 500 mg Krstyn supplement daily and 1 tablet of 250 mg vitamin C

Category

Treatment - Drugs

3

Description

Intervention group: Group 2: one capsules of 500 mg Krstyn supplements daily and a placebo tablet of vitamin C

Category

Treatment - Drugs

4

Description

Intervention group: Group 3: daily, one capsule of 500 mg Krstyn placebo and 1 vitamin C tablets

Category

Recruitment centers

1

Recruitment center

Name of recruitment center
committee of sport medicine

Full name of responsible person

Street address

City

Isfahan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Research Deputy of Isfahan University of Medical Sciences field

Full name of responsible person

Peyman Adibi doctor

Street address

Isfahan University of Medical Sciences, Hezarjarib St, Isfahan,

City

Esfahan

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Research Deputy of Isfahan University of Medical Sciences field

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

Isfahan University of Medical Sciences

Full name of responsible person

Reza Ghasvand doctor

Position

Ph.D. in Nutritional Sciences

Other areas of specialty/work

Street address

Isfahan University of Medical Sciences. Hezarjarib St

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Fax

Email

ghiasvand@hlth.mui.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