Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 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
Chimical coloremetric

17

Description
ASP
Timepoint
before and after intervention
Method of measurement
PHOTOMETERIC

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

Treatment - Drugs

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 Ghiasvand doctor

Position

Ph.D. in Nutritional Sciences

Other areas of specialty/work

Street address

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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