

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Sep 2026

Effect of Zinc Supplementation on Serum Testosterone and Plasma Lactate in Cyclist after one Bout of Exhaustive Exercise

Protocol summary

Summary

Objectives: The purpose of this study was to investigate how exhaustion exercise affects testosterone levels and plasma lactates in road cyclists who are supplemented with oral zinc for 4 weeks. **Design, Setting and Conduct:** For this reason, sixteen male road cyclists were selected from the Tehran traffic team and under body composition were divided into two groups; zinc group and control group. Before beginning of research, plasma zinc was assessed. After 4 weeks zinc supplementation (30 mg/d⁻¹), blood samples were collected from each subjects before and after an exhaustive exercise bout. **Inclusion criteria:** Having 3-4 years of exercise experience; the absence of any disease in the past month such as to cold; respiratory infection; Hungarian; and fever; the subjects hadn't ingested any type of sport or vitamin-mineral supplements. **Exclusions criteria:** The consuming of sport or vitamin-mineral supplements; the use of alcohol and caffeine 48 hours before the test; participate in heavy exercise 48 hours before the test;; exposure to disease. **Interventions:** Zinc supplementation and one bout of exhaustive exercise. **Main Outcome Measures Variables:** Free and Total Testosterone, and Plasma Lactate.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201110107754N1**

Registration date: **2011-10-29, 1390/08/07**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2011-10-29, 1390/08/07

Registrant information

Name

Leila Shafiei Neek

Name of organization / entity

Faculty of Physical Education and Sport Sciences,
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Recruitment status

Recruitment complete

Funding source

investigator

Expected recruitment start date

2010-06-07, 1389/03/17

Expected recruitment end date

2010-08-21, 1389/05/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of Zinc Supplementation on Serum Testosterone and Plasma Lactate in Cyclist after one Bout of Exhaustive Exercise

Public title

Sport Nutrition

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusions criteria; Having 3-4 years of exercise experience; the absence of any disease in the past month such as to cold; respiratory infection; Hungarian; and

fever; the subjects hadn't ingested any type of sport or vitamin-mineral supplements. Exclusions criteria; the consuming of sport or vitamin-mineral supplements; the use of alcohol and caffeine 48 hours before the test; participate in heavy exercise 48 hours before the test; exposure to disease.

Age

From **20 years** old to **30 years** old

Gender

Male

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: **16**

Randomization (investigator's opinion)

Not 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

Ethics Committee of Tehran University, Department of Physical Education.

Street address

Faculty of Physical Education and Sport Science of Tehran University, Northern Kargar Ave, Tehran, Iran.

City

Tehran

Postal code

Approval date

2010-05-26, 1389/03/05

Ethics committee reference number

20

Health conditions studied

1

Description of health condition studied

subjects were Healthy

ICD-10 code

-

ICD-10 code description

-

Primary outcomes

1

Description

Total Testosterone

Timepoint

before and after exhaustive exercise

Method of measurement

by Immunoassay method

2

Description

Plasma Lactate

Timepoint

before and after exhaustive exercise

Method of measurement

by Enzyme Calorimetry method

3

Description

Free Testosterone

Timepoint

before and after exhaustive exercise

Method of measurement

by Elisa Kit

Secondary outcomes

1

Description

no

Timepoint

no

Method of measurement

no

Intervention groups

1

Description

Placebo= 30 mg dextrose

Category

Placebo

2

Description

Zinc supplementation= 30 mg as zinc sulphat

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Tehran City Cycling Traffic team
Full name of responsible person
Leila Shafiei Neek
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Sponsors / Funding sources

1

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Faculty of Physical Education and Sport Sciences,
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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Investigator
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

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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