Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The Effect of Caffeine Supplementation on Growth Hormone and Testosterone after Resistance Exercise According to the Polymorphism of Cytochrome P450

Protocol summary

Study aim

Caffeine has the athletic performance-enhancing effects, but their effect on concentrations of anabolic hormones is unclear. Therefore, this research examines the short–term effect of caffeine consumption on anabolic hormones of growth and testosterone after performing resistance exercise (RE).

Design

A randomized, double-blind, placebo-controlled, crossover

Settings and conduct

The study was cross-sectional and double-blinded at the University of Kurdistan Gymnasium. In this research, the investigator and the subjects did not know which complementary group and which placebo group was, and the third person performed this blindness.

Participants/Inclusion and exclusion criteria

For this purpose, 30 men who did resistance exercise (mean age 21.72 ± 4.06, height 179.31 ± 5.08 centimeter, wight 77.31 ± 14.70 kilogram) volunteered and in a Testosterone and Growth hormones response to caffeine consumption before resistance exercise in athletes: a randomized, double-blind, placebo-controlled, crossover design consumed caffeine supplement (6 mg.k-1 of the body weight) and placebo (maltodextrine6 mg.k-1 of the body weight) one hour before the RE and the blood samples were taken before, after and 15 min after RE.

Intervention groups

Caffeine consumption before resistance exercise in athletes: a randomized, double-blind, placebo-controlled, crossover design consumed caffeine supplement (6 mg.k-1 of the body weight) and placebo (maltodextrine6 mg.k-1 of the body weight) one hour before the RE

Main outcome variables

The concentration of GH after RE with 85% of 1RM

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20170405033231N2**
Registration date: **2019-04-20, 1398/01/31**
Registration timing: **retrospective**

Last update: **2019-04-20, 1398/01/31**
Update count: **0**

Registration date

2019-04-20, 1398/01/31

Registrant information

Name

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 87 3366 7765

Email address

r.rahimi@uok.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-02-19, 1397/11/30

Expected recruitment end date

2019-03-03, 1397/12/12

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
The Effect of Caffeine Supplementation on Growth Hormone and Testosterone after Resistance Exercise According to the Polymorphism of Cytochrome P450

Public title
Effect of caffeine on Growth Hormone and Testosterone
Purpose
Basic scienece
Inclusion/Exclusion criteria
Inclusion criteria:
Resistance trained athletes
Exclusion criteria:
untrained
Age
From **18 years** old to **25 years** old
Gender
Male

Phase
2
Groups that have been masked

- Participant
- Investigator

Sample size
Target sample size: **30**
Randomization (investigator's opinion)
Randomized
Randomization description
Subjects were randomly and cross overly grouped in placebo and supplement
Blinding (investigator's opinion)
Double blinded
Blinding description
Caffeine supplementation and placebo were numbered by the third person.
Placebo
Used
Assignment
Crossover
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of University of Kurdistan
Street address
Pasdaran St.,
City
Sanandaj
Province
Kurdistan
Postal code
66177-15175
Approval date
2019-01-19, 1397/10/29
Ethics committee reference number
IR.UOK.REC.1397.030

Health conditions studied

1

Description of health condition studied
Effect of caffeine consumption on growth hormone in athletes
ICD-10 code
Z02.5
ICD-10 code description
Encounter for examination for participation in sport

Primary outcomes

1

Description
levels of growth hormone and testosterone in athletes due to the effect of resistance training
Timepoint
Pre and post of supllement consumption
Method of measurement
ELISA

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: caffeine consumption
Category
Other

2

Description
Control group: Placebo (Maltodextrin)
Category
Placebo

Recruitment centers

1

Recruitment center
Name of recruitment center
University of Kurdistan
Full name of responsible person
Rahman Rahimi
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Sponsors / Funding sources

1

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Grant name
Research fund
Grant code / Reference number
گرانت پژوهشی استاد 96
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
University of Kurdistan
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
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be 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