

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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, weight 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 (maltodextrine 6 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 (maltodextrine 6 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 science

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 supplement 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

Street address

Pasdaran

City

Sanandaj

Province

Kurdistan
Postal code
6617715175
Phone
+98 87 3366 7765
Email
r.rahimi@uok.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
University of Kurdistan
Full name of responsible person
Shoaib Mahmmodi
Street address
Pasdaran St.
City
Sanandaj
Province
Kurdistan
Postal code
66177-15175
Phone
+98 87 3366 7765
Email
sh.mahmodi@uok.ac.ir
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
University of Kurdistan
Full name of responsible person
Rahman Rahimi
Position
Associate Professor
Latest degree
Ph.D.
Other areas of specialty/work

Physiology
Street address
Pasdaran
City
Sanandaj
Province
Kurdistan
Postal code
6617775175
Phone
+98 87 3366 7765
Email
r.rahimi@uok.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity
University of Kurdistan
Full name of responsible person
Rahman Rahimi
Position
Associate Professor
Latest degree
Ph.D.
Other areas of specialty/work
Physiology
Street address
Pasdaran
City
Sanandaj
Province
Kurdistan
Postal code
6617715175
Phone
+98 87 3366 7765
Fax
+98 87 3366 7765
Email
r.rahimi@uok.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
University of Kurdistan
Full name of responsible person
Rahman Rahimi
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Physiology
Street address
Pasdaran
City
Sanandaj
Province
Kurdistan

Postal code

6617715175

Phone

+98 87 3366 7765

Fax

+98 87 3366 7765

Email

r.rahimi@uok.ac.ir

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