

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

Effect of a single resistance training session and acute different dosages of caffeine intake on some DOMS indices in male volleyball players

Protocol summary

Summary

Present study will perform in order to determine the effect of single-session resistance training and acute caffeine intake with different doses on delayed muscle soreness markers in male volleyball players. Therefore, thirty elite male volleyball players (age range 25-20 years) will participate in a quasi-experimental, repeated measured and double-blind design. The subjects will allocate in three randomized homogeneous groups: placebo (Dextrose intake: 6 mg/kg/body weight), supplement group1 (caffeine intake: 6 mg/kg/body weight) and supplement group2 (caffeine intake: 9 mg/kg/body weight). All subjects will participate in a single-session resistance weight- training (Seven stations with 80% of one repetition maximum, 3 sets per station). Blood samples will taken at three stages (before and 45 min after supplementation, and 24 hours after the exercise). Biochemical markers (Creatine kinase, lactate dehydrogenase, alanine amino transferase and amino transferase) and inflammatory (Tumor necrosis factor- α and C-reactive protein), along with some physical indicators related to delayed muscle will determine. The serum biochemical and peripheral blood leukocytes counts will determine by spectrophotometer and automatic analyzer, respectively. The serum inflammatory will measure by ELISA and Immunoturbidometric methods, respectively.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201112244663N7**

Registration date: **2011-12-30, 1390/10/09**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2011-12-30, 1390/10/09

Registrant information

Name

Afshar Jafari

Name of organization / entity

University of Tabriz

Country

Iran (Islamic Republic of)

Phone

+98 41 1339 3251

Email address

ajafari@tabrizu.ac.ir

Recruitment status

Recruitment complete

Funding source

University of Tabriz

Expected recruitment start date

2011-05-22, 1390/03/01

Expected recruitment end date

2011-06-22, 1390/04/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of a single resistance training session and acute different dosages of caffeine intake on some DOMS indices in male volleyball players

Public title

Different doses effect of caffeine on muscle soreness

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusion criteria : Healthy elite male volleyball players,

age 20-25 years, at least 5 years sport history, without any inflammatory, medical drugs, dietary xanthines and supplementor anabolic steroids ingestion during 6 months prior to the study. Exclusion criteria :Chronic disease, injuries, caffeine consumers(>100 mg.d-1), High jump laste than 45 cm, fat percent higher than 15 %.

Age

From **20 years** old to **25 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

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

Tabriz University of Medical Sciences

Street address

Golgasht St. Daneshgah St. Tabriz

City

Tabriz

Postal code

Approval date

2011-11-16, 1390/08/25

Ethics committee reference number

9046

Health conditions studied

1

Description of health condition studied

Exercise-induced damages

ICD-10 code

Y57.9

ICD-10 code description

Drug or medicament, unspecified

Primary outcomes

1

Description

Total Serum Cereatine kinase (CK)

Timepoint

Before(45 min) and after supplementation and 24 h after resistance exercise

Method of measurement

photometric methods with commercial kits (Pars-Azmoon)

2

Description

Serum total lactate dehydrogenase (LDH)

Timepoint

Before(45 min) and after supplementation and 24 h after resistance exercise

Method of measurement

photometric methods with commercial kits (Pars-Azmoon)

3

Description

Serum Alanine Transaminase (ALT)

Timepoint

Before(45 min) and after supplementation and 24 h after resistance exercise

Method of measurement

photometric methods with commercial kits (Pars-Azmoon)

4

Description

Serum Aspartate Transaminase (AST)

Timepoint

Before(45 min) and after supplementation and 24 h after resistance exercise

Method of measurement

photometric methods with commercial kits (Pars-Azmoon)

5

Description

Serum C-reactive protein (hs-CRP)

Timepoint

Before(45 min) and after supplementation and 24 h after resistance exercise

Method of measurement

immunoturbidometric assay with commercial kits (Pars-Azmoon)

6

Description

Serum Tumor necrosis factor α (TNF- α)

Timepoint

Before(45 min) and after supplementation and 24 h after

resistance exercise
Method of measurement
ELISA methods with commercial kits
(eBioscience:BMS2034)

Secondary outcomes

1

Description
The peak power of lower limb
Timepoint
Before, immediately and 24 h after resistance exercise
Method of measurement
Sargent Vertical Jump Test

2

Description
Perception of muscle soreness
Timepoint
Before, immediately and 24 h after resistance exercise
Method of measurement
Verbal-descriptive Talag questionnaire

3

Description
Flexibility of back and lower limb
Timepoint
Before, immediately and 24 h after resistance exercise
Method of measurement
The sit and reach test (Velez test)

4

Description
The maximum isometric strenght of back and lower limb
Timepoint
Before, immediately and 24 h after resistance exercise
Method of measurement
Dynamometer

Intervention groups

1

Description
Placebo group: Dextrose Intake (6mg/kg/day), along with a single session of resistance tarining (7 Stations, 80% 1RM, 3 sets)
Category
Placebo

2

Description
Supplement group1: caffeine intake (6 mg/kg/day), along with a single session of resistance tarining (7 Stations, 80% 1RM, 3 sets)
Category
Other

3

Description
Supplement group2: caffeine intake (9 mg/kg/day), along with a single session of resistance tarining (7 Stations, 80% 1RM, 3 sets)
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
The Volleyball Board of East Azerbaijan
Full name of responsible person
Dr Afshar Jafari
Street address
Faculty of physical education & sports sciences,
University of Tabriz, Tabriz, Iran
City
Tabriz

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
University of Tabriz
Full name of responsible person
Dr Hamidreza Ghassemzadeh
Street address
University of Tabriz, 29 Bahman Ave, Tabriz, Iran.
City
Tabriz
Grant name
بودجهی مربوط به پایان نامه های تحصیلات تکمیلی دانشگاه تبریز
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
University of Tabriz
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

University of Tabriz

Full name of responsible person

Dr Afshar Jafari

Position

PhD in Molecular Exercise Physiology

Other areas of specialty/work**Street address**

Faculty of physical education & sports sciences,
University of Tabriz, Tabriz, Iran.

City

Tabriz

Postal code**Phone**

+98 41 1339 3251

Fax

+98 41 1335 6008

Email

ajafari@tabrizu.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