

Clinical Trial Protocol

Iranian Registry of Clinical Trials

03 Jul 2026

Effects of endurance and resistance training on brain derived neurotrophic factor and cortisol plasma in untrained male students

Protocol summary

Summary

The purpose of this study was to determine Effects of endurance and resistance training on brain derived neurotrophic factor and cortisol plasma in untrained male students. Thirty Healthy non-athlete male students (Neka Branch Islamic Azad University) were randomly divided into three groups: 1. control, 2. Endurance training, 3.resistance training. Blood sampling (10 cc) were obtained before and 4 weeks after intervention. Training program consisted endurance (60% -75% of reserve heart rate) and resistance training(60% -75% of 1RM).

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014072218562N1**
Registration date: **2015-05-24, 1394/03/03**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-05-24, 1394/03/03

Registrant information

Name

Jabbar Bashiri

Name of organization / entity

Tabriz Branch, Islamic Azad University

Country

Iran (Islamic Republic of)

Phone

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Email address

bashiri.jabbar@iaut.ac.ir

Recruitment status

Recruitment complete

Funding source

Karaj Branch, Islamic Azad University

Expected recruitment start date

2012-03-19, 1390/12/29

Expected recruitment end date

2013-03-20, 1391/12/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of endurance and resistance training on brain derived neurotrophic factor and cortisol plasma in untrained male students

Public title

Effects of endurance and resistance training on brain derived neurotrophic factor and cortisol

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: age 18-25 years; healthy male; no specific nutritional diet; no smoking; no regular sport activity for past 2 years. Exclusion criteria: participation in physical activity; consumption of Drugs & Supplements;

Age

From **18 years** old to **25 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **50**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Islamic Azad University, Sari Branch

Street address

Darya Street, Islamic Azad University, Sari Branch,
Sari, Iran

City

Sari

Postal code

Approval date

2014-12-16, 1393/09/25

Ethics committee reference number

13-1393

Health conditions studied

1

Description of health condition studied

resistance and endurance training

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Cortisol

Timepoint

Before and 48 hours after experimental period

Method of measurement

ELISA

2

Description

brain derived neurotrophic factor

Timepoint

Before and 48 hours after experimental period

Method of measurement

ELISA

Secondary outcomes

1

Description

Brain-derived Neurotrophic Factor

Timepoint

pre and 48 hour after training

Method of measurement

ELISA

2

Description

cortisol

Timepoint

pre and post

Method of measurement

EIA

Intervention groups

1

Description

The resistance training group performed circuit resistance training at the intensity of 60-75% 1RM, 3 days a week for 4 weeks.

Category

Other

2

Description

The endurance-training group performed 30-45 minute interval running at the intensity of %60-%75 of maximum heart rate.

Category

Other

3

Description

no intervention in control group

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Karaj Branch, Islamic Azad University

Full name of responsible person

Alireza Rahimi

Street address

Basij Street, Faculty of Physical Education and Sport Sciences, Karaj Branch, Islamic Azad University, Karaj, Iran

City

karaj

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

karaj branch, Islamic Azad University

Full name of responsible person

Alireza Rahimi

Street address

karaj branch, Islamic Azad University, Karaj, Iran

City

Karaj

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

karaj branch, Islamic Azad University

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

Name of organization / entity

Karaj Branch, Islamic Azad University

Full name of responsible person

Alireza Barari

Position

PhD, Assistant Professor in Exercise Physiology

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

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Web page address

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