

# 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

+98 41 3333 0790

##### 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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**City**

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**Postal code****Phone**

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## Person responsible for scientific inquiries

#### Contact

**Name of organization / entity**

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**Full name of responsible person**

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## Person responsible for updating data

#### Contact

**Name of organization / entity**

Islamic Azad University, Tabriz Branch

**Full name of responsible person**

Jabbar Bashiri

**Position**

PhD, Assistant Professor in Exercise Physiology

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

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**Postal code****Phone**

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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*