Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The Comparison of endurance and resistance training effectiveness on Adipokine levels(Lipocalin-2) among non-athlete students .

Protocol summary

Summary

The purpose of this study is to examine the effect of 8 weeks resistance versus endurance training on plasma Lipocalin2 in male students. Thirty healthy male students,that no participate in any period of training in the last 6 months, who are not suffering from cardiovascular and metabolic diseases with will be randomly allocated into three groups: control group (n = 10), resistance training group (n =10) and endurance training group (n = 10). Initially the percentage of fat, plasma lipocalin2 concentrations, waist to hip ratio and blood pressure will be measured in all these subjects. Then the resistance training will be performed 3 days per week at an intensity corresponding to 65–80% of one-repetition maximum, 8-12 repetitions and 2-4 sets for 8 weeks, Endurance training group, also, underwent an 8-week intervention, with a frequency of 3 days per week at an intensity corresponding to 65 – 80% maximum heart rate for 20 – 34 min. At the end of the interventions fat content, plasma concentrations lipocalin2, waist to hip ratio and blood pressure will be measured again and compared between the three groups. Comparisons will be made before and after the interventions in each group as well.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201207024188N2**
Registration date: **2012-07-30, 1391/05/09**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2012-07-30, 1391/05/09

Registrant information

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research, Islamic Azad University, Gachsaran Branch

Expected recruitment start date

2011-12-22, 1390/10/01

Expected recruitment end date

2012-02-29, 1390/12/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Comparison of endurance and resistance training effectiveness on Adipokine levels(Lipocalin-2) among non-athlete students .

Public title

Effects of exercise training on plasma lipocalin-2

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:1-Age between 21 and 27 years 2-No history of cardiac or metabolic disease 3- Subjects have not been in physical training in the last 6 month before

the study begins. Exclusion criteria: 1- Uncooperative participants 2- Exacerbation of breathing problems

Age
From **21 years** old to **27 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)
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 Gachsaran Branch

Street address
Islamic Azad University Gachsaran Branch, Gachsaran Iran

City
Gachsaran

Postal code

Approval date
2011-11-22, 1390/09/01

Ethics committee reference number
51492900112004

Health conditions studied

1

Description of health condition studied
Plasma Protein

ICD-10 code
R77

ICD-10 code description
Other abnormalities of plasma proteins

Primary outcomes

1

Description
Body fat percent

Timepoint
Prior to intervention , After the intervention

Method of measurement
Caliper

2

Description
Plasma Lipocalin Concentration

Timepoint
Prior to intervention , After the intervention

Method of measurement
ELISA kits

3

Description
Wasit to Hip Ratio(WHR)

Timepoint
Prior to intervention , After the intervention

Method of measurement
Tape Meter

Secondary outcomes

1

Description
Blood Pressure

Timepoint
Prior to intervention , After the intervention

Method of measurement
Mercury Barometer

Intervention groups

1

Description
Endurance training:In this study Endurance training performed an 8-week intervention, with a frequency of 3 days per week at an intensity corresponding to 65 – 80% maximum heart rate for 20 – 34 min.

Category
Lifestyle

2

Description
Resistance training will be performed 3 days per week at an intensity corresponding to 65–80% of one-repetition maximum, 8-12 repetitions and 2-4 sets for 8 weeks.

Category
Lifestyle

3

Description
Control group: This group did not do any exercise.

Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Islamic Azad University Gachsaran Branch
Full name of responsible person
Street address
City
Gachsaran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University Gachsaran
Full name of responsible person
Seyed Saman Mousavian
Street address
Islamic Azad University Gachsaran ,Iran
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Gachsaran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Islamic Azad University Gachsaran
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

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Other areas of specialty/work
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00
Fax
Email
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*