Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Effect of aerobic and resistance training on body composition, glucose homeostasis, appetite, serum leptin and hs-CRP levels in over weight and obese anxious girls

Protocol summary

Study aim
Assessing the effect of concurrent aerobic and resistance training on body composition, resting energy expenditure, serum lipid, leptin, cortisol, growth, prolactin hormones, appetite, glucose homeostasis, sleep quality, aerobic and an aerobic power and Hs-CRP levels in over weight and obese anxious girls

Design
In this research, 30 overweight and obese anxious girls voluntarily will be divided into two groups; 15 people in experimental and 15 people in control group.

Settings and conduct
The present study is a semi-experimental study among the students of city of Rasht for 8 weeks. Blood sampling is performed after 12 hours of fasting and before and after eight weeks of aerobic and resistance training.

Participants/Inclusion and exclusion criteria
Aged of 14-17 years, not have regular exercise training during last year, not have orthopedic disease

Intervention groups
Intervention (concurrent training) group: Includes resistance and aerobic training for eight weeks Control group :no intervention

Main outcome variables
Blood lipid, Leptin, Cortisol, Resting energy expenditure , Prolactin , Grow hormones, Blood glucose , Insulin , Appetite , CRP-hs, sleep quality

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20150531022498N16**
Registration date: **2018-01-28, 1396/11/08**
Registration timing: **retrospective**
Last update: **2018-01-28, 1396/11/08**
Update count: **0**

Registration date
2018-01-28, 1396/11/08

Registrant information

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Ramin Shabani

Name of organization / entity
Islamic Azad University

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source
Vice Chancellor of Research, University of Islamic Azad University, Rasht Branch

Expected recruitment start date
2017-06-22, 1396/04/01

Expected recruitment end date
2017-08-23, 1396/06/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effect of aerobic and resistance training on body composition, glucose homeostasis, appetite, serum leptin and hs-CRP levels in over weight and obese anxious girls

Public title

Effect of aerobic and resistance training in over weight and obese anxious girls

Purpose
Prevention

Inclusion/Exclusion criteria

Inclusion criteria:
Aged of 14-17 years Not have regular exercise training during last year not have orthopedic disease

Exclusion criteria:
Absence for more than three sessions of training have special diet

Age
From **14 years** old to **17 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **30**

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
Ethics Committee of Azad University, Rasht Branch

Street address
Islamic Azad University, Rasht Brunch

City
Rasht

Province
Guilan

Postal code
۴۱۴۷۶۵۴۹۱۹

Approval date
2017-09-19, 1396/06/28

Ethics committee reference number
IR.IAU.RASHT.REC.1396.91

2

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Approval date
2017-09-19, 1396/06/28

Ethics committee reference number
IR.IAU.RASHT.REC.1395.79

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Approval date
2017-09-19, 1396/06/28

Ethics committee reference number
IR.IAU.RASHT.REC.1396.80

Health conditions studied

1

Description of health condition studied
Obesity

ICD-10 code
E66.0

ICD-10 code description
Obesity due to excess calories

Primary outcomes

1

Description
Blood lipid

Timepoint
Before and eight weeks after the exercise

Method of measurement
Serum levels using ELISA method (mg/dl)

2

Description
Leptin

Timepoint
Before and eight weeks after the exercise

Method of measurement
Serum levels using ELISA method (ng/ml)

3

Description
cortisol
Timepoint
Before and eight weeks after the exercise
Method of measurement
serum levels using ELISA method (µg/dl)

4

Description
Rest ing energy expenditure
Timepoint
Before and eight weeks after the exercise
Method of measurement
According to equations

5

Description
Prolactin
Timepoint
Before and eight weeks after the exercise
Method of measurement
Serum levels using ELISA method (ng/ml)

6

Description
Growth hormone
Timepoint
Before and eight weeks after the exercise
Method of measurement
blood sampling ELISA

7

Description
Blood glucose
Timepoint
Before and eight weeks after the exercise
Method of measurement
serum levels using photometric method (mg/dl)

8

Description
Insulin
Timepoint
Before and eight weeks after the exercise
Method of measurement
serum levels using ELISA method (ρmol/L)

9

Description
Appetite
Timepoint
Before and eight weeks after the exercise
Method of measurement
Using appetite questionnaire

10

Description
hs-CRP
Timepoint
Before and eight weeks after the exercise
Method of measurement
serum levels using ELISA method (ng/mL)

11

Description
sleep quality
Timepoint
Before and eight weeks after the exercise
Method of measurement
Using questionnaire

Secondary outcomes

1

Description
Body mass index
Timepoint
Before and eight weeks after the exercise
Method of measurement
Using of Weight on squared height formula

2

Description
Aerobic power
Timepoint
Before and eight weeks after the exercise
Method of measurement
Using of Racport.

3

Description
Anaerobic power
Timepoint
Before and eight weeks after the exercise
Method of measurement
Using of Rast test

4

Description
percentage of body fat
Timepoint
Before and eight weeks after the exercise
Method of measurement
Using of caliper and by body fat precent formula

5

Description
Body mass without fat
Timepoint
Before and eight weeks after the exercise
Method of measurement

Using of caliper.

Intervention groups

1

Description
Intervention group: Concurrent training aerobic and resistance for 8 weeks.
Category
Prevention

2

Description
Control group: no intervention
Category
Prevention

Recruitment centers

1

Recruitment center
Name of recruitment center
Somayeh School of Rasht
Full name of responsible person
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Sponsors / Funding sources

1

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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Islamic Azad University
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
Persons

Person responsible for general inquiries

Contact
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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