

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jun 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

Name

Ramin Shabani

Name of organization / entity

Islamic Azad University

Country

Iran (Islamic Republic of)

Phone

+98 13 3375 2715

Email address

shabani@iaurasht.ac.ir

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 Branch

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

Ethics committee

Name of ethics committee

Ethics Committee of Azad University, Rasht Branch

Street address

Islamic Azad University, Rasht Branch

City

Rasht

Province

Guilan

Postal code

۴۱۴۷۶۵۴۹۱۹

Approval date

2017-09-19, 1396/06/28

Ethics committee reference number

IR.IAU.RASHT.REC.1395.79

3

Ethics committee

Name of ethics committee

Ethics Committee of Azad University, Rasht Branch

Street address

Islamic Azad University, Rasht Branch

City

Rasht

Province

Guilan

Postal code

۴۱۴۷۶۵۴۹۱۹

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 ($\mu\text{g/dl}$)

4

Description

Resting 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 (pmol/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 percent 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

Zohreh Nikjoo

Street address

Lakan gate, Azad university of rasht,Rasht

City

Rasht

Province

Guilan

Postal code

4147654919

Phone

+98 13 3342 2153

Email

Zohreh__nikjoo@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University

Full name of responsible person

Ali delpasand

Street address

Lakan gate, Azad University of rasht,Rasht

City

Rasht

Province

Guilan

Postal code

4147654919

Phone

+98 13 3342 3308

Email

shabani_msn@yahoo.com

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

Name of organization / entity

Islamic Azad University

Full name of responsible person

Zohreh Nikjo, Donya sajadi, Marjan zahmatkesh

Position

Student

Latest degree

Master

Other areas of specialty/work

Exercise Physiology

Street address

Islamic Azad University Rasht Branch, Lakan Bridge, Rasht

City

Rasht

Province

Guilan

Postal code

4147654919

Phone

+1 333422153

Fax

Email

marzieh.nazari.v@gmail.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Dr.Ramin Shabani

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Exercise Physiology

Street address

Islamic Azad University Rasht Branch, Lakan Bridge,
Rasht

City

Rasht

Province

Guilan

Postal code

4147654919

Phone

+1 333422153

Fax**Email**

shabani_msn@yahoo.com

Web page address**Province**

Guilan

Postal code

4147654919

Phone

+98 13 3342 2153

Fax**Email**

marzieh.nazari.v@gmail.com

Web page address**Person responsible for updating data****Contact****Name of organization / entity**

Islamic Azad University

Full name of responsible person

Marzieh Nazari

Position

Student

Latest degree

Master

Other areas of specialty/work

Exercise Physiology

Street address

Islamic Azad University Rasht Branch, Lakan Bridge,
Rasht

City

Rasht

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