Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effect of twelve weeks combined exercise (aerobic- resistance) on plasma levels of Ghrelin and Obestatin in obese adolescens

Protocol summary

Summary

The aim of this study is assessing effect of 12 weeks combined exercise (Aerobic-resistance) on plasma levels of ghrelin and obestatin in obese adolescents. This study is a semi experimental one. Thirty obese adolescents are willing to cooperate voluntarily; they will be randomly divided in two groups: experimental group and control group. Then, the experimental group will receive combined exercise program (aerobic training consisted of running on a treadmill for 20 minutes at 60-70% of maximal oxygen consumption (VO2max) and (intensity resistance training 70% of one repetition maximum (1RM) for 2 sets of 10 repetitions per movement) for 12 weeks (three sessions per week). The control group will receive no intervention but will follow. Variables including weight, body fat percentage, BMI, VO2max will measured in both groups before and after exercises. Blood samples will be collected in two stages, 48 hours before and after exercise to measure of plasma levels of ghrelin and obestatin.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016012926251N1**
Registration date: **2016-05-06, 1395/02/17**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2016-05-06, 1395/02/17

Registrant information

Name

Iman Zakavi

Name of organization / entity

Abadan Medical Sciences School

Country

Iran (Islamic Republic of)

Phone

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Recruitment status

Recruitment complete

Funding source

Abadan University of Medical Sciences

Expected recruitment start date

2016-03-15, 1394/12/25

Expected recruitment end date

2016-04-18, 1395/01/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of twelve weeks combined exercise (aerobic-resistance) on plasma levels of Ghrelin and Obestatin in obese adolescens

Public title

Effect of combined exercise on appetite hormones in obese adolescens

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: all male students in middle and high schools in Baghmalek City; body mass index (BMI) higher than 30; male gender; Lack of any disease; Non smoking and drugs; Parental consent and sign a written consent. Exclusion criteria: The absence of more than three days in training; Subjects who had a history of the sport and disease as well as Subjects who use a weight loss

method.

Age
From **12 years** old to **16 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
Ethics committee of Abadan University of Medical Sciences

Street address
Ethics committee of Abadan University of Medical Sciences, Vice chancellor for research, Opposite International Airport Jami Abadan, Flying field, Abadan City, Khouzestan.

City
Abadan

Postal code

Approval date
2015-12-22, 1394/10/01

Ethics committee reference number
IR.ABADANUMS.REC.1394.47

Health conditions studied

1

Description of health condition studied
Obesity

ICD-10 code
E66

ICD-10 code description
Obesity

Primary outcomes

1

Description
Ghrelin

Timepoint
Before intervention, 3 months after intervention

Method of measurement
ng/ml- ELISA method

2

Description
Obestatin

Timepoint
Before intervention, 3 months after intervention

Method of measurement
ng/ml-ELISA method

Secondary outcomes

1

Description
Weight

Timepoint
Before intervention, 3 months after intervention

Method of measurement
kg, In body Device

2

Description
Body Mass Index

Timepoint
Before intervention, 3 months after intervention

Method of measurement
kg/m2-In Body device

3

Description
fat percentage

Timepoint
Before intervention, 3 months after intervention

Method of measurement
% Percentage, In Body Device

4

Description
Waist -to-Hip Ratio

Timepoint
Before intervention, 3 months after intervention

Method of measurement
cm, Meter

5

Description
Maximal Oxygen Consumption

Timepoint

Before intervention, 3 months after intervention

Method of measurement

ml/kg/min---By Rockport 1-mile walk test

Intervention groups

1

Description

Intervention group: Combined exercise program (aerobic training consisted of running on a treadmill for 20 minutes at 60-70% of maximal oxygen consumption (VO2max) and (intensity resistance training 70% of one repetition maximum (1RM) for 2 sets of 10 repetitions per movement) for 12 weeks (three sessions per week)

Category

Other

2

Description

Control group: Participate in daily activities

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Shahid Tabatabai Hospital

Full name of responsible person

Amin Delavari

Street address

Shahid Tabatabai HospitaL, Ghale Kamisi St., Baghmalek City, Kouzestan

City

Baghmalek

2

Recruitment center

Name of recruitment center

Abadan University of Medical Sciences

Full name of responsible person

DR Mohamad Mahboobi

Street address

Vice chancellor for research, Abadan University of Medical Sciences, Opposite International Airport Jami Abadan, Flying field, Abadan City, Khouzestan

City

Baghmalek

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for research of Abadan University of Medical Sciences

Full name of responsible person

Dr. Mohamad Mahboobi

Street address

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City

Abadan

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Vice Chancellor for research of Abadan University of Medical Sciences

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

Abadan University of Medical Sciences

Full name of responsible person

Iman Zakavi

Position

Masters/Corresponding author

Other areas of specialty/work

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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