Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The effect of twelve weeks combined exercise (aerobic- resistance) on plasma levels of Myostatin obese adolescents

Protocol summary

Summary

The aim of this study was assessing effect of twelve weeks combined exercise (aerobic-resistance) on plasma levels of Myostatin in obese youth. 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 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 level of Myostatin.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016032926251N2**
Registration date: **2016-04-16, 1395/01/28**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2016-04-16, 1395/01/28

Registrant information

Name

Iman Zakavi

Name of organization / entity

Abadan Medical Sciences School

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Abadan Medical Sciences School, Vice chancellor for research

Expected recruitment start date

2016-02-20, 1394/12/01

Expected recruitment end date

2016-04-20, 1395/02/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of twelve weeks combined exercise (aerobic-resistance) on plasma levels of Myostatin obese adolescents

Public title

The effect of combined exercise on Myostatin obese adolescents

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: all male students in middle and high schools in Baghmalek city; BMI higher than 30; lack of any disease؛ non smokiners and drugs users; 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
After determining the obesity of the subjects, 30 people will be selected randomly and randomly divided into two groups: control (n = 15) and experimental (n = 15) will be divided.

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Abadan Medical Sciences School
Street address
Ethics committee of Abadan Medical Sciences School, Vice chancellor for research, Opposite International Airport Jami Abadan, Flying field, Abadan City , Khouzestan.
City
Abadan
Postal code
517
Approval date
2015-12-22, 1394/10/01
Ethics committee reference number
IR.ABADANUMS.REC.1394.48

Health conditions studied

1

Description of health condition studied
Obesity
ICD-10 code
E66
ICD-10 code description
Obesity

Primary outcomes

1

Description
vo2max
Timepoint
Before intervention, 3 months after intervention
Method of measurement
ml/kg/min---By ROCKPORT 1-mile walk test

2

Description
Myostatin
Timepoint
Before intervention, 3 months after intervention
Method of measurement
ng/l-using human Myostatin and ELISA kits

Secondary outcomes

1

Description
Weight
Timepoint
Before intervention, 3 months after intervention
Method of measurement
kg, In body Device

2

Description
BMI
Timepoint
Before intervention, 3 months after intervention
Method of measurement
kg, In body Device

3

Description
fat percentage
Timepoint
Before intervention, 3 months after intervention
Method of measurement
kg, In body Device

Intervention groups

1

Description
"Intervention group: 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) "
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 Hospita, Street Ghale Kamisi, Baghmalek City, Kouzestan
City
Baghmalek

2

Recruitment center
Name of recruitment center
Abadan Medical Sciences School Vice chancellor for research,
Full name of responsible person
Dr. Mohamad Mahboobi
Street address
Vice chancellor for research, Abadan Medical Sciences School, Opposite International Airport Jami Abadan, Flying field, Abadan City, Khouzestan.
City
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice Chancellor for research of Abadan Medical Sciences School
Full name of responsible person
Dr. Mohamad Mahboobi
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Abadan Medical Sciences School, Opposite International Airport Jami Abadan, Flying field, Abadan City, Khouzestan.
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 Medical Sciences School
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
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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