

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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)

Phone

+98 916 814 3051

Email address

zakavi.i@ajums.ac.ir

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 smokers 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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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

Name of organization / entity

Abadan Medical Sciences School

Full name of responsible person

Iman Zakavi

Position

MSc

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