

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

11 Sep 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**  
Abadan

**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

**Street address**  
Abadan Medical Sciences School, Opposite  
International Airport Jami Abadan, Flying field, Abadan  
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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 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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## **Person responsible for updating data**

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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*