

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Jul 2026

The effect of 12 weeks circuit resistance training with three different intensities equal volume on serum level of some muscle growth factors in obese men

Protocol summary

Study aim

Which of the three intensities would have a better impact on obesity, myokines, and adipomycins? What will be the relationship between myokines and the adipomycokines of decorin, myostatin, follistatin and TGF- β 1 in obese individuals? The aim of the present study was to investigate the effect of twelve weeks of circular resistance training of the same volume in three low (40%), moderate (60) and high (80%) intensities on Decourine, Folistatin, Myostatin and TGF- β 1 in obese men.

Design

The circular resistance training protocol consisted of 8 upper and lower trunk movements (squat, arm forward, chest press, knee bending, knee bending, shoulder bar, leg press, arm wiring behind) circular and It will be investigated at different intensities

Settings and conduct

The field of study will be the study of obesity and its complications. The type of research will be experimental, in which practical intervention is performed without a manufacturing process.

Participants/Inclusion and exclusion criteria

Conditions of entry into the study of drug and alcohol addiction research, lack of regular exercise for at least 6 months, no history of kidney, liver, cardiovascular disease, diabetes, and conditions ($BMI \geq 30$, Waist-to-height ratio (WHtR) > 0.5) and no harm or physical injury to the subjects and will be included in the study after a cardiologist examination and general health approval.

Intervention groups

control group 40% training group 60% practice group 80% training group

Main outcome variables

Serum levels follistatin and myostatin, decorin and TGF-B1

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190627044037N1**

Registration date: **2020-09-22, 1399/07/01**

Registration timing: **retrospective**

Last update: **2020-09-22, 1399/07/01**

Update count: **0**

Registration date

2020-09-22, 1399/07/01

Registrant information

Name

Saber Niazi

Name of organization / entity

Kharazmi University

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-10-23, 1398/08/01

Expected recruitment end date

2020-08-22, 1399/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
The effect of 12 weeks circuit resistance training with three different intensities equal volume on serum level of some muscle growth factors in obese men

Public title
Comparison of three intensities of circular resistance training of equal volume on factors related to muscle growth in obese men

Purpose
Supportive

Inclusion/Exclusion criteria
Inclusion criteria:
Volunteer obese men No drug and alcohol addiction Having no history of regular exercise for at least 6 months No history of kidney, liver, cardiovascular disease, diabetes BMI $\geq$ 30, Waist-to-height ratio (WHtR)>0.5) age between 23 to 32
Exclusion criteria:
Drug and alcohol addiction Having a history of regular exercise Having a history of kidney, liver, cardiovascular disease, diabetes BMI<30, Waist-to-height ratio (WHtR)<0.5) 32<age<23

Age
From **23 years** old to **32 years** old

Gender
Male

Phase
3

Groups that have been masked
No information

Sample size
Target sample size: **44**

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
Comparison and evaluation of optimal intensity of circular resistance training to reduce adipose tissue and help improve muscle tissue in obese men

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Sport Sciences Research Institute
Street address

bagh feyz street, janat allye,
City
tehran
Province
Tehran
Postal code
9671945754
Approval date
2020-08-19, 1399/05/29
Ethics committee reference number
IR.SSRC.REC.1399.064

Health conditions studied

1

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

Primary outcomes

1

Description
decorin
Timepoint
pre and post exercise
Method of measurement
Elisa reader

2

Description
folistatin
Timepoint
pre and post exercise
Method of measurement
Elisa

3

Description
myostatin
Timepoint
pre and post exercise
Method of measurement
Elisa

4

Description
TGF-b1
Timepoint
pre and post exercise
Method of measurement
Elisa

Secondary outcomes

empty

Intervention groups

1

Description

intensity 40%(40%1RM). Calculate and estimate the intensity of resistance training activity of the samples as much as 40% of the maximum strength of each sample. Circular resistance training means doing exercises with sports machines in a stationary manner and in sequence. These sports movements number 8 moves. It will be three times a week for 12 weeks.

Category

Rehabilitation

2

Description

Intervention group: 60% intensity(60%1RM). Calculate and estimate the intensity of resistance training activity of the samples as much as 60% of the maximum strength of each sample. Circular resistance training means doing exercises with sports machines in a stationary manner and in sequence. These sports movements number 8 moves. It will be three times a week for 12 weeks.

Category

Rehabilitation

3

Description

Intervention group: 80% intensity(80% 1RM). Calculate and estimate the intensity of resistance training activity of the samples as much as 80% of the maximum strength of each sample. Circular resistance training means doing exercises with sports machines in a stationary manner and in sequence. These sports movements number 8 moves. It will be three times a week for 12 weeks.

Category

Rehabilitation

4

Description

Control group: no exercise

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Kharazmy university of tehran

Full name of responsible person

Saber Niazi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Kharazmy

Full name of responsible person

Hamid Rajabi

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Grant name

Grant code / Reference number

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

No

Title of funding source

student research grant

Proportion provided by this source

30

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

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

The University of Tehran Kharazmy

Full name of responsible person
Hamid Rajabi

Position
professor

Latest degree
Ph.D.

Other areas of specialty/work
Physiology

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Person responsible for scientific inquiries

Contact

Name of organization / entity
Kharazmy University of Tehran

Full name of responsible person
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PhD student

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

The results of the exercise intervention and the results of the research will be sent to medical centers and related societies to confirm the best exercise intensity and the effects of improving the obesity process and its complications.

When the data will become available and for how long

the beginning of 1399

To whom data/document is available

Everyone in the community and those interested in health

Under which criteria data/document could be used

In order to use the best method and intensity of exercise and exercise interventions to modify obesity and its pathophysiological complications

From where data/document is obtainable

The documentation of the present research will be published in scientific profiles

What processes are involved for a request to access data/document

By emailing the author or receiving reports from scientific journals

Comments