

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Jun 2026

Comparison of the effectiveness of eight weeks of continuous, interval and bipolar training on serum indexes of growth hormone insulin-like growth factor-1axis and performance in active young men

Protocol summary

Study aim

The aim of this study was to determine the effect of eight weeks of bipolar training on Growth Hormone - Insulin-like growth factor-1axis serum indexes of active young men.

Design

Clinical trial with control group, with parallel groups, double-blind, randomized

Settings and conduct

After filling out a special questionnaire to determine the level of physical activity and obtaining consent, they will be selected as subjects. The sample will be selected from the students of Tabriz University. Before and after eight weeks of blood sampling practice, Bruce test and Wingate test will be used to evaluate the performance.

Participants/Inclusion and exclusion criteria

Entry requirements: No metabolic and metabolic diseases Age: 25-18 years Fat percentage between 22-17% Body mass index between 19-25 kg / m². No entry conditions: smoking Having an underlying disease Age outside the scope of the study Percentage of fat outside the scope of the study Body mass index outside the scope of the study Have a regular workout schedule for the past six months

Intervention groups

1. Medium to Intense Continuous Exercise, 2. Intense Interval Exercise, 3. Bipolar Exercise Volume and 4. Control Group

Main outcome variables

Serum indexes of Growth Hormone - Insulin-like growth factor-1 axis and function of active young men

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210817052212N1**

Registration date: **2021-11-12, 1400/08/21**

Registration timing: **prospective**

Last update: **2021-11-12, 1400/08/21**

Update count: **0**

Registration date

2021-11-12, 1400/08/21

Registrant information

Name

Behzad Azadi

Name of organization / entity

Mohageg Ardabili University

Country

Iran (Islamic Republic of)

Phone

+98 41 3288 6341

Email address

l_bolboli@uma.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-11-20, 1401/08/29

Expected recruitment end date

2023-01-15, 1401/10/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effectiveness of eight weeks of continuous, interval and bipolar training on serum

indexes of growth hormone insulin-like growth factor-1 axis and performance in active young men

Public title

Effect of eight week continuance, interval and polarized training on serum level indexes of insulin-like growth factor-1 axis and performance in active young men

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

Non metabolic disease Age: 25-18 years Fat percentage between 22-17% Body mass index between 19-25 kg / m²

Exclusion criteria:

smoking Age outside the scope of the study Having an underlying disease Have a training program in the last six months

Age

From **18 years** old to **25 years** old

Gender

Male

Phase

N/A

Groups that have been masked

- Care provider
- Data analyser

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

After selecting the subjects, they were randomly divided into four homogeneous groups (Simple randomization)

Blinding (investigator's opinion)

Double blinded

Blinding description

In this study, educators and data analysts will be kept blind

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Tabriz University

Street address

University of Tabriz., University Square., Tabriz

City

Tabriz

Province

East Azarbaijan

Postal code

5166616471

Approval date

2020-09-25, 1399/07/04

Ethics committee reference number

IR.TABRIZU.REC.1399.064

Health conditions studied

1

Description of health condition studied

It is not a disease

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Serum indices of Growth Hormone - Insulin-like growth factor-1 axis

Timepoint

Before the intervention, after the first session and after 8 weeks

Method of measurement

Blood sampling

Secondary outcomes

1

Description

Performance of active young men

Timepoint

Before and after the intervention

Method of measurement

Bruce and Wingate test

Intervention groups

1

Description

Intervention group 1: "Continuous exercise". The subjects of this group will include 10 minutes of warm-up with a variety of stretching, flexibility, walking and running. The main activity of the moderate to intense aerobic exercise group includes 30 to 50 minutes of continuous running with an intensity of 50-70% of the reserve heart rate (pressure perception of 12 to 15) and at the end 5 minutes of cooling down by walking and doing stretching exercises.

Category

N/A

2

Description

Second intervention group: "Periodic exercise". Exercises in this group include 10 minutes of warm-up with a variety of stretching, flexibility, walking and running, and the main activity of the group of subjects in this group includes 3 periods with 4 repetitions and 15-30 seconds of running with an intensity of 85-95% of the reserve heart rate. Pressure perception 16 to 19) in each repetition will be 30-30 seconds of active rest after each repetition and 3 minutes of active rest after each period (active rest in the range of 40-50% of the stored heart rate)

Category

N/A

3

Description

Third intervention group: "Bipolar exercise". The bipolar workout group will perform 80-70% of the main workout volume (30 minutes) with light to moderate intensity (50-60% reserve heart rate) and the remaining 20-30% with 85-95% reserve heart rate intensity, In this way, two periods with 3 repetitions of 15-30 seconds, which will have an active rest of 30-60 seconds after each repetition and an active rest of 3 minutes after each period.

Category

N/A

4

Description

Control group: "No training program". During this eight-week period, they will avoid regular physical activity.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Tabriz University

Full name of responsible person

Behzad Azadi

Street address

University of Tabriz., Imam Khomeini St., 29 Bahman Blvd., Tabriz

City

Tabriz

Province

East Azarbaijan

Postal code

5166616471

Phone

+98 41 3334 0081

Email

behzadazadi2009@gmail.com

2

Recruitment center

Name of recruitment center

Tabriz University

Full name of responsible person

Behzad Azadi

Street address

University of Tabriz., Imam Khomeini St., 29 Bahman Blvd., Tabriz

City

Tabriz

Province

East Azarbaijan

Postal code

5166616471

Phone

+98 41 3334 0081

Email

behzadazadi2009@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Mohaghegh Ardabili University

Full name of responsible person

Dr Lotfali blboli

Street address

Mohaghegh Ardabil University., End of University Street., Ardabil

City

Ardabil

Province

Ardabil

Postal code

5619913131

Phone

+98 45 3150 5000

Email

info@webenlance.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Mohaghegh Ardabili University

Proportion provided by this source

100

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
Mohaghegh Ardabili University
Full name of responsible person
Behzad Azadi
Position
PhD student
Latest degree
Master
Other areas of specialty/work
Exercise physiology
Street address
Mohaghegh Ardabil University., End of University
Street., Ardabil
City
Ardabil
Province
Ardabil
Postal code
5619913131
Phone
+98 45 3150 5005
Email
behzadazadi2009@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Mohaghegh Ardabili University
Full name of responsible person
Lotfali Bolboli
Position
Associate Professor
Latest degree
Ph.D.
Other areas of specialty/work
Exercise physiology
Street address
Mohaghegh Ardabil University., End of University
Street., Ardabil
City
Ardabil
Province
Ardabil
Postal code
5619913131
Phone
+98 45 3150 5355
Email
sbolboli@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity

Mohaghegh Ardabili University
Full name of responsible person
Behzad Azadi
Position
PHD Student
Latest degree
Master
Other areas of specialty/work
Exercise physiology
Street address
No. 19, Jashanpour dead end., Akhooni St., Tabriz
City
Tabriz
Province
East Azarbaijan
Postal code
5451638845
Phone
+98 41 3288 6341
Email
behzadazadi2009@gmail.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

The need is not seen

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Not applicable

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

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

Primary and secondary consequences will be shared

When the data will become available and for how long

Access since 1401

To whom data/document is available

Researchers working in academic and scientific institutions

Under which criteria data/document could be used

Send via email

From where data/document is obtainable

behzadazadi2009@gmail.com

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

The request will be sent via registered email within one week

Comments