

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

The effect of eight weeks of High intensity interval training versus Moderate intensity continuous training with supplementation of sodium alginate on CCK and PYY in men with metabolic syndrome.

Protocol summary

Study aim

The effect of eight weeks of High intensity interval training versus Moderate intensity continuous training with supplementation of sodium alginate on CCK and PYY in young men with metabolic syndrome.

Design

2 groups of subjects will complete 24 sessions of HIIT practice during this research period. And two other groups of subjects will complete 24 sessions of MICT training during the study. Participants in the study will be divided into 4 groups of 10 individuals each for exercise activity after determining VO₂peak and obtaining baseline scales, and the other 1 groups of 10 individuals will be included in the study as the control group.

Settings and conduct

2 groups of subjects will complete 24 sessions of HIIT practice during this research period. And two other groups of subjects will complete 24 sessions of MICT training during the study. Participants in the study will be divided into 4 groups of 10 individuals each for exercise activity after determining VO₂peak and obtaining baseline scales, and the other 1 groups of 10 individuals will be included in the study as the control group.

Participants/Inclusion and exclusion criteria

Inclusion criteria are defined as having three factors out of a total of 5 factors: abdominal obesity risk, increased fasting triglyceride levels, decreased fasting HDL cholesterol, fasting glucose impairment, and hypertension.

Intervention groups

Subjects were randomly divided into 6 groups including: Group 1: Intermittent Exercise; Group 2: Intermittent Exercise with Sodium Alginate Supplement; Group 3: Continuous Exercise; Group 4: Continuous Exercise with Sodium Alginate Supplement Group 5: Control will be divided.

Main outcome variables

PYY, CCK

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190916044788N1**

Registration date: **2020-03-12, 1398/12/22**

Registration timing: **retrospective**

Last update: **2020-03-12, 1398/12/22**

Update count: **0**

Registration date

2020-03-12, 1398/12/22

Registrant information

Name

Alireza Ebrahimi

Name of organization / entity

Trial completion date

2019-12-31, 1398/10/10

Scientific title

The effect of eight weeks of High intensity interval training versus Moderate intensity continuous training with supplementation of sodium alginate on CCK and PYY in men with metabolic syndrome.

Public title

The effect of eight weeks of High intensity interval training versus Moderate intensity continuous training with supplementation of sodium alginate on CCK and PYY in men with metabolic syndrome.

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Having no regular exercise for the past six months

Having at least 3 of 5 metabolic syndrome factors

Diagnosis of metabolic syndrome

Exclusion criteria:

Being absent more than 3 sessions during 24 practice sessions Having cardiovascular disease, cancer, diabetes, and other dangerous diseases

Age

From **18 years** old to **34 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **50**

Actual sample size reached: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

Random simple, personal, table of random numbers

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Used

Assignment

Single

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee**

2

Description

Control group: The control group received placebo in only three servings for 8 weeks.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Razi university

Full name of responsible person

Alireza ebrahimi

Street address

Al Akha St-gozarname

City

kermanshah

Province

Kermanshah

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Ebrahimialireza720@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Kermanshah University of Medical Sciences

Full name of responsible person

mohammad azizi

Street address

Al Agha Street-gozar name

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Person responsible for updating data

Contact

Name of organization / entity

Kermanshah University of Medical Sciences

Full name of responsible person

Alireza Ebrahimi

Position

master of student

Latest degree

Bachelor

Other areas of specialty/work

Physiology

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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

No - There is not a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available

Title