

Clinical Trial Protocol

Iranian Registry of Clinical Trials

24 Jul 2026

The effect of 8-week different combined training (strength and endurance) on resting Ghrelin levels and energy expenditure in overweight women

Protocol summary

Summary

The main purpose of this study was to investigate the effect of 8-week different combined training (strength and endurance) on resting Ghrelin levels and energy expenditure in overweight women. Design and method of study: This study is an interventional research. 30 overweight female (aged 18-32 years, body mass index ≥ 25 kg/m²) was selected and randomly divided into three groups, endurance + resistance (E+S), resistance + endurance (S+E) and control group. Training programs performed for eight week, 3 times per week. Endurance training include training on the bicycle ergometer at 60 minutes and resistance training include eight selected strength training. Inclusion criteria: female; age between 18 to 32 years old; the level of physical and mental health. Exclusion criteria: history of cardiovascular diseases, cancer, high blood pressure, diabetes, thyroid disease; addiction to any smoking, alcohol and narcotic substances; hormonal disorders; kidney or liver disease; surgery any medical intervention affecting the experimental results. Primary outcome: the Ghrelin level and daily energy expenditure were measured 24 hours before and 48 hours after training program.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017080319995N8**
Registration date: **2017-09-11, 1396/06/20**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-09-11, 1396/06/20

Registrant information

Name

Zahra Mardanpour Shahrekordi

Name of organization / entity

Shahrekord University

Country

Iran (Islamic Republic of)

Phone

+98 38 3232 4401

Email address

banitalebi@lit.sku.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Shahrekord University

Expected recruitment start date

2016-04-20, 1395/02/01

Expected recruitment end date

2016-05-14, 1395/02/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of 8-week different combined training (strength and endurance) on resting Ghrelin levels and energy expenditure in overweight women

Public title

The effect of different combined training in overweight women

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria: female; age between 18 to 32 years

old; the level of physical and mental health. Exclusion criteria: history of cardiovascular diseases, cancer, high blood pressure, diabetes, thyroid disease; addiction to any smoking, alcohol and narcotic substances; hormonal disorders; kidney or liver disease; surgery any medical intervention affecting the experimental results.

Age

From **18 years** old to **32 years** old

Gender

Female

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **72**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Endurance training performed on the bicycle ergometer and resistance exercise with gym apparatus.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Shahrekord University

Street address

Rahbar Blvd, Shahrekord

City

Shahrekord

Postal code

Approval date

2016-03-15, 1394/12/25

Ethics committee reference number

140/3256

Health conditions studied

1

Description of health condition studied

The relationship of sequence order of combined training to the amount of appetite and over weight

ICD-10 code

E66

ICD-10 code description

Obesity

Primary outcomes

1

Description

Ghrelin level

Timepoint

Before and after 8 weeks of intervention

Method of measurement

ELISA kit for Ghrelin

2

Description

Daily energy expenditure

Timepoint

Before and after 8 weeks of intervention

Method of measurement

Harris-Benedict formula

Secondary outcomes

1

Description

Weight

Timepoint

Before and after 8 weeks of intervention

Method of measurement

Weight meter Seca

2

Description

Height

Timepoint

Before and after 8 weeks of intervention

Method of measurement

Using a height gauge model Saros

3

Description

Body Mass Index (BMI)

Timepoint

Before and after 8 weeks of intervention

Method of measurement

Weight divided by height squared

4

Description

Body fat percent

Timepoint

Before and after 8 weeks of intervention

Method of measurement

Using calipers Base Line

5

Description

Maximum strength

Timepoint

Before and after 8 weeks of intervention

Method of measurement

By use 1 Repetition Maximum formul

6

Description

Maximal oxygen uptake

Timepoint

Before and after 8 weeks of intervention

Method of measurement

Test of 12 minutes walking and running

Intervention groups

1

Description

Intervention group 1: The endurance plus strength training group follow an combined training program for 8 weeks Who in the first do endurance training program and then 2 minutes of rest do strength training program.

Category

Other

2

Description

Intervention group 2: The strength plus endurance training group follow an combined training program for 8 weeks Who in the first do strength training program and then 2 minutes of rest do endurance training program.

Category

Other

3

Description

Control group: The control group do not any regular physical activity in daily life.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Enghelab gym

Full name of responsible person

Zahra Hemati Farsani

Street address

Facing the Public Services Office, Pasdaran Street,
Farsan

City

Farsan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Shahrekord University

Full name of responsible person

Dr Mohammad Faramarzi

Street address

Vice Chancellor for research, Shahrekord University,
Rahbar Blvd, Shahrekord

City

Shahrekord

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, Shahrekord University

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

Shahrekord University

Full name of responsible person

Dr Mohammad Faramarzi

Position

PhD, Associate Professor in Exercise Physiology

Other areas of specialty/work

Street address

Rahbar Blvd, Shahrekord

City

Shahrekord

Postal code

Phone

+98 38 3232 4401

Fax

Email

md.faramarzi@gmail.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Shahrekord University

Full name of responsible person

Dr Mohammad Faramarzi

Position

PhD, Associate Professor in Exercise Physiology

Other areas of specialty/work

Street address

Rahbar Blvd, Shahrekord

City

shahrekord

Postal code

Phone

+98 38 3232 4401

Fax

Email

md.faramarzi@gmail.com

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Shahrekord University

Full name of responsible person

Zohreh Shanazari

Position

PhD student of Science in exercise physiology

Other areas of specialty/work

Street address

Rahbar Blvd, Shahrekord

City

Shahrekord

Postal code

Phone

00

Fax

Email

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