

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Sep 2026

The effect of endurance, resistance and combined training (resistance-endurance) on the levels of Pentraxin 3, Galectin 3 and some inflammatory mediators in obese women

Protocol summary

Study aim

The effect of endurance, resistance and combination training on the levels of Pentraxin 3, Galectin 3 and some inflammatory mediators in obese women

Design

The study is a randomized, factorial clinical trial. The target population is 48 obese women who are divided into three training groups and a control group. 30 minutes of endurance training with 60% heart rate on the treadmill. Resistance training with intensity of 10 RM and Includes leg presses, forefoot, flat foot, chest press and paddling for 30 minutes. Combined training includes 15 minutes of endurance training and 15 minutes of resistance training.

Settings and conduct

Subjects attend the Top Technique Gymnasium on individual days of the week from 9 to 10 am, and after warming up for 30 minutes, perform their own exercises under the supervision of the relevant instructor, and after cooling off, the session ends. On the first day of fasting, a blood sample is taken before the start of training and 48 hours after the last training session, a blood sample is taken.

Participants/Inclusion and exclusion criteria

Obese women between the ages of 20 and 35 who wish to participate in this study. Do not participate in regular exercise for the past year. Have no history of heart disease or diabetes. Do not use drugs or alcohol. General physical and mental health.

Intervention groups

After filling out the consent form, the subjects are divided into four groups of 12 people. The first group: endurance training, the second group: resistance training, the third group: the combined training, the fourth group: control. Except for the control group, each group undergoes exercise for 12 weeks and 3 sessions per week.

Main outcome variables

Pentraxin 3, Galactin3, Tumor necrosis factor- α (TNF- α), Serum Amyloid A (SAA)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210626051720N1**

Registration date: **2021-07-11, 1400/04/20**

Registration timing: **registered_while_recruiting**

Last update: **2021-07-11, 1400/04/20**

Update count: **0**

Registration date

2021-07-11, 1400/04/20

Registrant information

Name

Mahrokh Kooti

Name of organization / entity

The University of Tehran

Country

Iran (Islamic Republic of)

Phone

+98 21 2244 1378

Email address

kooti.mahrokh@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-07-01, 1400/04/10

Expected recruitment end date

2021-08-06, 1400/05/15

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of endurance, resistance and combined training (resistance-endurance) on the levels of Pentraxin 3, Galectin 3 and some inflammatory mediators in obese women

Public title
The effect of endurance, resistance and combination training on some inflammatory mediators in obese women

Purpose
Prevention

Inclusion/Exclusion criteria
Inclusion criteria:
 Overweight women with a body mass index above 30 No history of regular physical activity in the past year
 Having a general level of physical and mental health
Exclusion criteria:
 Having type 2 diabetes Cardiovascular diseases Drug or alcohol addiction

Age
From **20 years** old to **35 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **48**

Randomization (investigator's opinion)
Randomized

Randomization description
Using the lottery method The names of the subjects are written on 40 separate pieces of paper and placed in a container. The names of the subjects are then randomly extracted and placed in the intervention or placebo group. The first 30 names are in the intervention group and the rest are in the placebo group.

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Factorial

Other design features
This study is a randomized factorial clinical trial. The target population includes 48 obese women in Tehran. People will be divided into four groups of 12 people.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of the Faculty of Physical Education and Sports Sciences, University of Tehran

Street address

Thirteenth floor, Block A, Central headquarters of the Ministry of Health, Qads town

City

Tehran

Province

Tehran

Postal code

3144685543

Approval date

2021-03-14, 1399/12/24

Ethics committee reference number

IR.UT.SPORT.REC.1400.006

Health conditions studied

1

Description of health condition studied

Overweight and obesity

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Pentraxine 3

Timepoint

First, the end of the study

Method of measurement

Kit Eliza

2

Description

Galactin 3

Timepoint

First, the end of the study

Method of measurement

Kit Eliza

3

Description

Tumor necrosis factor-a (TNF-a)

Timepoint

First, the end of the study

Method of measurement

Kit Eliza

4

Description

Serum Amyloid A (SAA)

Timepoint

First, the end of the study

Method of measurement

Kit Eliza

Secondary outcomes

1

Description

Insulin

Timepoint

First, the end of the study

Method of measurement

Insulin Eliza Kit

2

Description

Glucose

Timepoint

First, the end of the study

Method of measurement

Glucose Assessment Kit

Intervention groups

1

Description

Control group: 12 obese women without regular exercise

Category

Prevention

2

Description

Intervention group: Endurance exercise (performed by 12 obese women for 12 weeks and 3 sessions per week, 30 minutes on a treadmill with 60% heart rate) is performed before and after exercise for 15 minutes, warming up and cooling down, respectively.

Category

Prevention

3

Description

Intervention group: Resistance training (will be performed by 12 obese women for 12 weeks and 3 sessions per week. Each resistance training session will be about 30 minutes, which will include four sets with 8-12 repetitions and 10RM intensity, which includes leg presses, forward leg movements, Sit on the back of the foot, chest press and paddle.) Warm up and cool down for 15 minutes before and after exercise, respectively. 10RM is approximately equal to 75% of 1RM.

Category

Prevention

4

Description

Intervention group: Combined exercise (endurance-resistance) :(will be performed by 12 obese women for 12 weeks and 3 sessions per week. The combined exercise program in each session will include 15 minutes of aerobic exercise and 15 minutes of resistance exercise (two sets for each movement) .) Warm up and cool down for 15 minutes before and after training, respectively.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Medical University Tehran

Full name of responsible person

Kooti Mahrokh

Street address

Medical School, Poursina St, Enghelab St.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Tehran

Full name of responsible person

Rahimian Mohammad

Street address

In front of the university dormitory, Amirabad, Kargarshamali street

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor

organization/entity?

Yes

Title of funding source

University of Tehran

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**

The University of Tehran

Full name of responsible person

Kooti Mahrokh

Position

Student

Latest degree

Ph.D.

Other areas of specialty/work

Physiology

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

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Full name of responsible person

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Undecided - It is not yet known if there will be 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

Undecided - It is not yet known if there will be 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

Not applicable