

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

08 Jul 2026

### انگلیسی Comparison of the effect of eight weeks of Traditional resistance training and Crossfit on body composition and some physical fitness factors of obese women

#### Protocol summary

##### Study aim

survey of the effect of eight weeks of traditional resistance training and Crossfit on body composition and some fitness factors on obese women

##### Design

Clinical trial with two parallel groups, randomized on 30 subjects. Rand function of Excel software was used for randomization.

##### Settings and conduct

Subjects are selected from obese women in Varamin city and randomly placed in two groups of traditional resistance training and CrossFit. A session before the introduction, measurements related to anthropometric characteristics, some physical fitness factors and blood sampling are performed. Eight weeks of training and post-test will be conducted like the pre-test.

##### Participants/Inclusion and exclusion criteria

Obese women with the necessary conditions and characteristics of the research, including the age range of 20-30 years, not suffering from physical and mental diseases, not undergoing any type of treatment during the research period, not using tobacco, alcohol, sports supplements and not following Special diet and lack of regular sports activity in the last 6 months

##### Intervention groups

Traditional resistance training and Crossfit resistance training

##### Main outcome variables

Body mass index, waist to hip circumference, lipid profile, aerobic capacity and muscle strength

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20230910059392N1**

Registration date: **2023-09-25, 1402/07/03**

Registration timing: **registered\_while\_recruiting**

Last update: **2023-09-25, 1402/07/03**

Update count: **0**

##### Registration date

2023-09-25, 1402/07/03

##### Registrant information

###### Name

Hakimeh Akbari

###### Name of organization / entity

Semnan University

###### Country

Iran (Islamic Republic of)

###### Phone

+98 23 3153 2165

###### Email address

h.akbari@semnan.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2023-09-13, 1402/06/22

##### Expected recruitment end date

2023-11-13, 1402/08/22

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

انگلیسی Comparison of the effect of eight weeks of Traditional resistance training and Crossfit on body composition and some physical fitness factors of obese

women

## Public title

Effect of resistance training in obese women

## Purpose

Treatment

## Inclusion/Exclusion criteria

### Inclusion criteria:

All obese women 20 to 30 years old Have hyperlipidemia

### Exclusion criteria:

suffer from any kind of physical or mental illness take any medicine use tobacco, alcohol and sports supplements have a special diet done regular physical activity in the last 6 months

## Age

From **20 years** old to **30 years** old

## Gender

Female

## Phase

N/A

## Groups that have been masked

*No information*

## Sample size

Target sample size: **30**

## Randomization (investigator's opinion)

Randomized

## Randomization description

Restricted randomization, random allocation rule. First, we select a sample size of 30 people, then we randomly assign 15 people to the first intervention group (Crossfit resistance training) and the rest to the second intervention group (Traditional resistance training). (using the RAND function of EXEL software)

## Blinding (investigator's opinion)

Not blinded

## Blinding description

### Placebo

Not used

## Assignment

Parallel

## Other design features

The exercises of the two groups are similar in terms of duration and intensity

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics Committee of Semnan University of Medical Sciences

##### Street address

Physical Activity Department, Faculty of Human Sciences, Semnan University, Semnan, IR Iran

##### City

semnan

##### Province

Semnan

## Postal code

35131- 19111

## Approval date

2023-05-22, 1402/03/01

## Ethics committee reference number

IR.SEMUMS.REC.1402.034

## Health conditions studied

### 1

#### Description of health condition studied

Obesity and Physical Activity

#### ICD-10 code

E66

#### ICD-10 code description

Overweight and obesity

## Primary outcomes

### 1

#### Description

Body mass index

#### Timepoint

body mass index will be done The beginning of the study and 48 hours after last session of study

#### Method of measurement

Body mass index with the ratio of weight to the square of height (with a digital scale and meter), bodybuilding machine.

### 2

#### Description

lipid profile

#### Timepoint

body composition index will be done The beginning of the study and 48 hours after last session of study

#### Method of measurement

Lipid profile is measured by blood analysis

### 3

#### Description

muscle strength

#### Timepoint

body composition, muscle strength, aerobic capacity and blood sampling will be done the first session and 48 hours after last session of study

#### Method of measurement

Strength is measured by indirect measurement with a bodybuilding machine

### 4

#### Description

aerobic capacity

#### Timepoint

aerobic capacity will be done the first session and 48 hours after last session of study

**Method of measurement**

Aerobic power is measured by the shuttle run test

ygnarab@gmail.com

**Secondary outcomes**

empty

**Intervention groups****1****Description**

Intervention group: participants in the crossfit resistance training program will be performed for 45 minutes, three sessions per week for eight weeks. The CrossFit resistance training program consists of six rounds in a circuit with 15 to 20 repetitions of 30 seconds, with a 60-second rest between each round. In order of performance, CrossFit exercises will include body weight squats, Davis, walking lunges, prone barfixes, burpees, box jumps, modified sit-ups, and wall balls.

**Category**

Treatment - Other

**2****Description**

Intervention group: traditional resistance training program will be performed for 45 minutes, three sessions per week for eight weeks. Exercise will be done with an intensity of 50 to 65% of 1RM in all exercise variables. Exercises are performed in three sets of 15 repetitions. Training movements will include leg press, bench press with barbell, front thigh machine, shoulder with dumbbells from the sides, back thigh machine, crunches with body weight, boat underarm. Rest time between sets and movements will be 45 seconds and three minutes, respectively.

**Category**

Treatment - Other

**Recruitment centers****1****Recruitment center****Name of recruitment center**

Ferdous Clinic

**Full name of responsible person**

Arab Derazi Yeganeh

**Street address**

Technic gym, 15th Khordad St, Pishwa, Tehran, IR  
IRan

**City**

Pishwa

**Province**

Semnan

**Postal code**

35131- 19111

**Phone**

+98 23 3153 2165

**Email****Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Semnan University

**Full name of responsible person**

Hakimeh Akbari

**Street address**

Physical Education department, Faculty of Human  
Sciences, Semnan University, Semnan, Iran

**City**

Semnan

**Province**

Semnan

**Postal code**

35131- 19111

**Phone**

+98 23 3153 2165

**Email**

h.akbari@semnan.ac.ir

**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Semnan 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**

Semnan University

**Full name of responsible person**

Avandi Mohsen

**Position**

Associated professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Exercise Physiology

**Street address**

Physical Activity Department, Faculty of Human  
Sciences, Semnan University, Semnan, IR Iran

**City**

Semnan

**Province**

Semnan  
**Postal code**  
35131- 19111  
**Phone**  
+98 21 3153 2184  
**Email**  
m.avandi@semnan.ac.ir

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**  
Semnan University  
**Full name of responsible person**  
Akbari Hakimeh  
**Position**  
Assistant Professor  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**  
Exercise Physiology  
**Street address**  
Physical Education Department, Faculty of Human Sciences, Semnan University, Semnan, IR Iran  
**City**  
Semnan  
**Province**  
Semnan  
**Postal code**  
35131- 19111  
**Phone**  
+98 23 3153 2165  
**Email**  
h.akbari@semnan.ac.ir

## Person responsible for updating data

### Contact

**Name of organization / entity**  
Semnan University  
**Full name of responsible person**  
Akbari Hakimeh  
**Position**  
Assistant Professor  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**

Exercise Physiology  
**Street address**  
Physical Education Department, Faculty of Human Sciences, Semnan University, Semnan, IR Iran  
**City**  
Semnan  
**Province**  
Semnan  
**Postal code**  
35131- 19111  
**Phone**  
+98 23 3153 2165  
**Email**  
h.akbari@semnan.ac.ir

## 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

Not applicable

### Informed Consent Form

No - There is not a plan to make this available

### Clinical Study Report

Not applicable

### Analytic Code

Not applicable

### Data Dictionary

Not applicable

### Title and more details about the data/document

Provide information on the main outcome

### When the data will become available and for how long

Access starts 6 months after results are published

### To whom data/document is available

Only researchers working in academic and scientific institutions

### Under which criteria data/document could be used

The use of data in review studies and meta-analysis is allowed

### From where data/document is obtainable

It is possible to receive the data via e-mail:  
h.akbari@semnan.ac.ir

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

Submission of documents is one month after the request.

### Comments