

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### effect of 8 weeks of swimming HIIT training on serum levels of irisin and metabolic indicators in 50-60 years old overweight and obese women.

#### Protocol summary

##### Study aim

The purpose of this study is to investigate the effect of 8 weeks of swimming HIIT training on serum levels of irisin and some metabolic indicators in overweight and obese women.

##### Design

30 persons of overweight and obese women with an age range of 60-50 years will be selected as the statistical sample they and randomly will divide to two experimental and control groups

##### Settings and conduct

The present study is a semi-experimental which will be done in fieldwork

##### Participants/Inclusion and exclusion criteria

50-60 years old overweight and obese women, postmenopausal, no disease, familiar with swimming skill

##### Intervention groups

the study training program is conducted as an 8-week swimming HIIT trainings, which each week included 3 sessions, each session including 10 minutes of warm-up and 6-8 repetitions of 30 seconds of free swimming (front crawl) with maximum speed and active rest time of 2 minutes between repetitions and at the end of the training, 10 minutes of cool-down trainings will done. control group will not get any exercise

##### Main outcome variables

waist circumference; blood pressure; glucose; insulin resistance; HDL; TG ; irisin

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20180822040849N1**

Registration date: **2018-09-18, 1397/06/27**

Registration timing: **prospective**

Last update: **2018-09-18, 1397/06/27**

Update count: **0**

##### Registration date

2018-09-18, 1397/06/27

##### Registrant information

###### Name

akram jafari

###### Name of organization / entity

Islamic azad university shahrekord branch

###### Country

Iran (Islamic Republic of)

###### Phone

+98 38 3232 6462

###### Email address

mrmoradi@sku.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2018-10-23, 1397/08/01

##### Expected recruitment end date

2018-12-27, 1397/10/06

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

effect of 8 weeks of swimming HIIT training on serum levels of irisin and metabolic indicators in 50-60 years old overweight and obese women.

##### Public title

swimming HIIT training and serum levels of irisin

##### Purpose

Basic science

##### Inclusion/Exclusion criteria

**Inclusion criteria:**

overweight and obese women 60-50 years no disease postmenopausal

**Exclusion criteria:**

having disease BMI less than 30 age less than 50

**Age**

From **50 years** old to **60 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**

Simple randomization: First each subject will be taken in each groups (A or B) by tossing a coin. For example the side of the coin determines the assignment of each subject. Then each group will be named as control or experiment group by tossing a coin.

**Blinding (investigator's opinion)**

Not blinded

**Blinding description****Placebo**

Not used

**Assignment**

Other

**Other design features****Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Islamic Azad University Shahrekord Branch

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Rahmatieh, Islamic Azad University

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**Province**

Chahar-Mahal-va-Bakhtiari

**Postal code**

8813733441

**Approval date**

2018-05-21, 1397/02/31

**Ethics committee reference number**

IR.IAU.SHK.REC.1397.008

**Health conditions studied****1****Description of health condition studied**

Over Weight and Obesity

**ICD-10 code**

Z68.53

**ICD-10 code description**

Body mass index (BMI) pediatric, 85th percentile to less than 95th percentile for age

**Primary outcomes****1****Description**

irisin

**Timepoint**

before and after 8 weeks swimming HIIT training

**Method of measurement**

blood sampling

**2****Description**

glucose

**Timepoint**

before and after 8 weeks swimming HIIT training

**Method of measurement**

blood sampling

**3****Description**

insulin resistance

**Timepoint**

before and after 8 weeks swimming HIIT training

**Method of measurement**

blood sampling

**4****Description**

TG

**Timepoint**

before and after 8 weeks swimming HIIT training

**Method of measurement**

blood sampling

**5****Description**

HDL

**Timepoint**

before and after 8 weeks swimming HIIT training

**Method of measurement**

blood sampling

**6****Description**

Blood pressure

**Timepoint**

before and after 8 weeks swimming HIIT training

**Method of measurement**

barometer

## 7

### **Description**

waist circumference

### **Timepoint**

before and after 8 weeks swimming HIIT training

### **Method of measurement**

narrowest waist circumference

## **Secondary outcomes**

empty

## **Intervention groups**

### 1

#### **Description**

30 overweight and obese women (60-50 years) will be selected as the statistical sample and randomly assigned to two experimental and control groups. Experimental group will practice high intensity interval swimming trainings for 8 weeks, each week with 3 sessions, each session including 10 minutes of warm-up, 6-8 repetitions of 30 seconds of front crawl with maximum speed and 2 minutes of active rest between repetitions and at the end of training, 10 minutes of cool-down trainings. During the study period, the control group will not participate in any physical activity. Before training program, and 48 hours after the last training session, measurements of waist circumference and blood pressure, as well as blood samples in the fasting state will be performed to measure irisin, glucose and insulin resistance

#### **Category**

N/A

### 2

#### **Description**

Control group: without any exercise

#### **Category**

N/A

## **Recruitment centers**

### 1

#### **Recruitment center**

##### **Name of recruitment center**

islamic azad university shahrekord branch

##### **Full name of responsible person**

Behzad Zamani dehkordi

##### **Street address**

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## **Sponsors / Funding sources**

### 1

#### **Sponsor**

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##### **Full name of responsible person**

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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**

Islamic Azad University

#### **Proportion provided by this source**

100

#### **Public or private sector**

Private

#### **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**

Islamic Azad University

##### **Full name of responsible person**

Akram Jafari

##### **Position**

Assisstante Professor

##### **Latest degree**

Ph.D.

##### **Other areas of specialty/work**

Sport Physiology

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## Person responsible for scientific inquiries

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## Person responsible for updating data

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## 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

Yes - There is a plan to make this available

### 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

Yes - There is a plan to make this available

### Data Dictionary

Yes - There is a plan to make this available

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

all data

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

6 months after publication

### To whom data/document is available

academic staff

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

nothing

### From where data/document is obtainable

scientific papers

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

searching on scientific websites

### Comments