Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Effect of 8 weeks of High Intensity Interval Training with supplemental Ellagic acid on serum levels of some oxidative and antioxidant factors in obese women.

Protocol summary

Study aim
The Effect of 8 Weeks of Intense Interval Training and Oalic Acid Supplementation on Oxidative and Antioxidant Factors in Obese Women

Design
A controlled clinical trial with a randomized

Settings and conduct
Islamic Azad University Research Sciences Branch was conducted in 4 groups of 8 people (HIIT group, LA group, HIIT + LA group and control group) by 32 obese women between 30 and 30 45 years with BMI greater than 30 kg / m 2 were performed. At first, the conditions and the manner of performing the interventions were explained, then the informed consent form was filled out by the subjects. Height, weight, age and health status of the subjects were obtained before intervention. Blood samples were also taken before the intervention and 12 hours fasting. The main protocol of intense intermittent exercise was 4-minute 4-minute interval running in 95-95% HRpeak with 3 minutes walking in 50-60% HRpeak and 7 minutes. Rest is accompanied, they did. This protocol was derived from the study of Zhang et al. (2015). In this study Placebo (cerlac) or oleic acid (98%) was administered once daily for 8 weeks at 50 mg (one capsule). 48 hours after the end of blood transfusions, serum levels of GPx, MDA and TAC were measured.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Lowest weight change in the last 6 months, no disease, BMI greater than 30 and no exclusion criteria: Pregnancy and breastfeeding during study, antioxidant and fat burning supplements and medications

Intervention groups
High Intensity interval training (HIIT), Ellagic Acid supplementasion (LA), HIIT+ LA

Main outcome variables
Serum Glutathione Peroxidase (GPx), Malondialdehyde (MDA) and Total Oxidative Capacity (TAC) Serum Levels as Dependent Variables and Intense Periodic Exercise and Supplementation of Oalic Acid as Dependent Variables

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20191020045170N1**
Registration date: **2019-12-16, 1398/09/25**
Registration timing: **retrospective**

Last update: **2019-12-16, 1398/09/25**
Update count: **0**

Registration date
2019-12-16, 1398/09/25

Registrant information

Name
Marjan Mansouri dara

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 21 4425 4085

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2019-02-04, 1397/11/15

Expected recruitment end date
2019-03-06, 1397/12/15

Actual recruitment start date

2019-03-11, 1397/12/20

Actual recruitment end date

2019-03-18, 1397/12/27

Trial completion date

2019-07-09, 1398/04/18

Scientific title

Effect of 8 weeks of High Intensity Interval Training with supplemental Ellagic acid on serum levels of some oxidative and antioxidant factors in obese women.

Public title

The effect of exercise and supplementation of ellagic acid on obesity

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Having weight changes of less than 2kg in the last 6 months Body mass index (BMI) greater than 30 kg / m 2 No history of any bone, cardiovascular, respiratory, liver, kidney, brain or hormonal disease Women in districts 1-6 of Tehran Age range between 30 and 45 years

Exclusion criteria:

Alcohol and cigarette consumption a week before the protocol Pre-protocol skeletal injuries Sensitivity to supplement or placebo Having a medical prohibition letter about exercise or supplementation Pregnancy or lactation

Age

From **30 years** old to **45 years** old

Gender

Female

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **40**

Actual sample size reached: **32**

Randomization (investigator's opinion)

Randomized

Randomization description

simple randomized, individual, sealed envelops

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Sport Sciences Research Institute of Iran

Street address

Tehran Province, Tehran, District 7, 5th Dead End

City

Tehran

Province

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Postal code

1587958711

Approval date

2019-03-11, 1397/12/20

Ethics committee reference number

IR.SSRC.REC.1398.005

Health conditions studied

1

Description of health condition studied

Obesity

ICD-10 code

E66

ICD-10 code description

Overweight and obesity

Primary outcomes

1

Description

serum levels of GPx

Timepoint

Before intervention and 48 hours after intervention (Exercise and supplementation)

Method of measurement

Colorimetric GPX assay kit, abcam 102530, Germany

2

Description

Malondialdehyde (MDA)

Timepoint

Before intervention and 48 hours after intervention (Exercise and supplementation)

Method of measurement

Colorimetric MDA assay Kit, abcam 118970, Germany

3

Description

Total antioxidant capacity serum level

Timepoint

Before intervention and 48 hours after intervention (Exercise and supplementation)

Method of measurement

Using FRAP method and 592 nm wavelength spectrophotometer using ELISA (Mercodia, Sweden)

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: High Intensity Interval Training (8 weeks / three days a week) and 4-minute interval runs in 95-85% HRpeak followed by 3 minutes walking in 50-60% HRpeak and 7 minutes rest.
Category
Other

2

Description
Intervention group: Ellagic Acid Supplementation: Dosage is based on previous sources of 50 mg (one capsule / once daily for 8 weeks). This is a supplement made by the US supplement spot company.
Category
Other

3

Description
Intervention group: HIIT+LA: combined two intervention
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Islamic Azad University of Science Research
Full name of responsible person
Marjan Mansoori Dara
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
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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
80
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
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Full name of responsible person
Marjan Mansoori Dara
Position
Student
Latest degree
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Exercise 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 more information

Study Protocol
No - There is not 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