Clinical Trial Protocol
Iranian Registry of Clinical Trials

26 May 2026

The Effect of 10 weeks of high intensity interval training and green tea supplementation on serum levels of Sirtuin 1, PGC-1α and Catalase in overweight women

Protocol summary

Summary

The aim of the present study is determining the effect of 10 weeks of high intensity interval training with consuming green tea supplementation on Sirtuin-1 (SIRT1) and Peroxisome Proliferate-Activated Receptor Gamma Co activator 1-Alpha (PGC-1a) in overweight women. Thirty non-athlete females having overweight randomly divided into 3 consistent and equal groups including high intensity interval training along with supplements group, High intensity interval training plus placebo and supplementary group. The training program included 3 sessions in a week for 10 weeks with the intensity of 85-95% maximum heart rate. The groups consuming green tea consumed 3 tablets of 500 mg after each main meal for 10 weeks. Venous blood samples before test and post test was used for measuring SIRT1 and PGC-1a.Body mass index, fat percentage and the weight of the participants were assessed before and after intervention.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015121425524N1**
Registration date: **2016-04-01, 1395/01/13**
Registration timing: **prospective**

Last update:
Update count: **0**

Registration date

2016-04-01, 1395/01/13

Registrant information

Name

Elham Ghasemi

Name of organization / entity

Birjand University

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Recruitment status

Recruitment complete

Funding source

Thesis, Vice chancellor 0f Research, Birjand University

Expected recruitment start date

2016-05-21, 1395/03/01

Expected recruitment end date

2016-07-22, 1395/05/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Effect of 10 weeks of high intensity interval training and green tea supplementation on serum levels of Sirtuin 1, PGC-1α and Catalase in overweight women

Public title

The Effect of 10 weeks of high intensity interval training and green tea supplementation on serum levels of Sirtuin 1, PGC-1α and Catalase in overweight women

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Lack of participation in regular physical activity; lack of any recent chronic disease; non-smoking; lack of cardiovascular disease, metabolic or respiratory diseases; not taking any herbal supplement or drug or

chemical antioxidant and extreme sports in the last 6 months. Exclusion criteria: lack of regular participation in exercise; lack of regular use of supplements; Taking herbal supplements and antioxidant drug or chemical or strenuous exercise during the study period.

Age
From **19 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

Blinding (investigator's opinion)
Single blinded

Blinding description

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Birjand University of Medical Sciences

Street address
Birjand University of Medical Sciences, Birjand, South Khorasan

City
Birjand

Postal code

Approval date
2016-02-08, 1394/11/19

Ethics committee reference number
ir.bums.1394.312

Health conditions studied

1

Description of health condition studied
Overweight and Obesity

ICD-10 code
E65,E66,E6

ICD-10 code description
Localized adiposity, Obesity, Other hyperalimentation, Sequelae of hyperalimentation

Primary outcomes

1

Description
Sirtuin 1

Timepoint
Baseline and after 10 weeks

Method of measurement
ELISA

2

Description
PGC-1a

Timepoint
Baseline and after 10 weeks

Method of measurement
ELISA

Secondary outcomes

1

Description
Weight

Timepoint
Baseline and after 10 weeks

Method of measurement
Digital Balance

2

Description
Body mass index

Timepoint
Baseline and after 10 weeks

Method of measurement
Formula

3

Description
Fat percentage

Timepoint
Baseline and after 10 weeks

Method of measurement
Caliper and Jackson Pollock formula

Intervention groups

1

Description
The intervention group practice with supplements of green tea: consumption 10 weeks 500 mg Dinah green tea tablets three times a day , along with intensive interval training with intensity of 85-95% of maximum heart rate

Category
Placebo

2

Description
Intervention group supplements of green tea: consumption 500 mg Dinah green tea tablets for 10 weeks in three times a day.
Category
Placebo

3

Description
The intervention group placebo: 10 weeks of taking 500 mg starch powder tablets similar to green tea tablets three times daily.
Category
Placebo

Recruitment centers

1

Recruitment center
Name of recruitment center
Birjand University
Full name of responsible person
Doctor Mohammad Ismail Afzalpour
Street address
Birjand University, Birjand, South Khorasan
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice Chancellor Of Research, Birjand University
Full name of responsible person
Doctor Mohammad Ali Behdani
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Birjand University, Birjand
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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
Vice Chancellor Of Research, Birjand 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

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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