Clinical Trial Protocol
Iranian Registry of Clinical Trials

28 May 2026

The Effects of L-Carnitine Supplementation during Endurance Training on Some Serum Angiogenesis Indices and Blood Pressure Changes in Obese Young Women

Protocol summary

Study aim
The purpose of this research is to investigate the effects of l-carnitine supplementation during endurance training on some serum angiogenesis indices and blood pressure changes in obese young women.

Design
A clinical trial with a control group, parallel, double-blind, randomized, with a predicted sample size of 40 and phase 3 trial

Settings and conduct
This study will be conducted on obese women living in the city of Marivan. The duration of the research is 8 weeks and the participants are divided into four groups randomly. The interventional factor including endurance and l- carnitine supplementation is considered for this study.

Participants/Inclusion and exclusion criteria
Inclusion criteria: being 20–30 years old, being female, having a body mass index over than 30 kg/m2; exclusion criteria: smoking, taken the drug or supplement, having a kind of specific disease and having regular exercise.

Intervention groups
Intervention group 1: Implementation of endurance exercise with consuming 3 grams of l- carnitine supplementation for 8 weeks Intervention group 2: Implementation of endurance exercise with consuming 3 grams of placebo (maltodextrin) for 8 weeks Intervention group 3: Consumption of 3 grams of l- carnitine supplementation alone for 8 weeks Intervention group 4: Control group (they will not receive any intervention)

Main outcome variables
Endothelial growth factor; Nitric oxaide; Endostatin; Interleukin- 6; Blood pressure

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20150412021719N2**
Registration date: **2019-08-16, 1398/05/25**
Registration timing: **registered_while_recruiting**

Last update: **2019-08-16, 1398/05/25**
Update count: **0**

Registration date
2019-08-16, 1398/05/25

Registrant information

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Mehdi Hakimi
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University of Mohaghegh Ardabili
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2019-07-23, 1398/05/01

Expected recruitment end date
2019-08-22, 1398/05/31

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

The Effects of L-Carnitine Supplementation during Endurance Training on Some Serum Angiogenesis Indices and Blood Pressure Changes in Obese Young Women

Public title
The effect of exercise training with ingested of l-carnitine on angiogenesis
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
Participants in the current study must be non-athlete Participants in the current study must be at the age range of 20-30 years Participants in the current study must be woman Participants in the current study must be obese
Exclusion criteria:
People who consuming tobacco are not allowed to participate in this study People who taking the drug or nutrition supplement are not allowed to participate in this study People who having a kind of special disease are not allowed to participate in this study
Age
From **20 years** old to **30 years** old
Gender
Female

Phase
N/A
Groups that have been masked

- Participant
- Investigator
- Outcome assessor

Sample size
Target sample size: **40**
Randomization (investigator's opinion)
Randomized
Randomization description
Simple random, the chance of all subjects for divided into two groups of supplement and placebo were similar
Blinding (investigator's opinion)
Double blinded
Blinding description
The participants and researchers in this study will be blind to the use of supplementation or placebo
Placebo
Used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Kurdistan University of Medical Sciences
Street address
Kurdistan University of Medical Sciences, Pasdaran Street
City
Sananndaj
Province
Kurdistan
Postal code
6617713446
Approval date
2019-07-15, 1398/04/24
Ethics committee reference number
IR.MUK.REC.1398.079

Health conditions studied

1

Description of health condition studied
Obesity
ICD-10 code
E66.0
ICD-10 code description
Obesity due to excess calories

Primary outcomes

1

Description
Endothelial growth factor
Timepoint
Basal state and after 8 week
Method of measurement
Based on nanogram per liter with ELISA method

2

Description
Nitric oxaide
Timepoint
Basal state and after 8 week
Method of measurement
Based on micromole per liter with ELISA method

3

Description
Interleukin 6
Timepoint
Basal state and after 8 week
Method of measurement
Based on picogram per milliliter with ELISA method

4

Description
Endostatin
Timepoint
Basal state and after 8 week
Method of measurement

Based on nanogram per liter with ELISA method

5

Description
Blood pressure
Timepoint
Basal state and after 8 week
Method of measurement
Based on millimeter mercury with digital blood pressure monitor

6

Description
Interleukin 4
Timepoint
Basal state and after 8 week
Method of measurement
Based on nanogram per liter with ELISA method

7

Description
Interleukin 8
Timepoint
Basal state and after 8 week
Method of measurement
Based on nanogram per liter with ELISA method

Secondary outcomes

empty

Intervention groups

1

Description
First intervention group: The subjects of endurance exercise with l- carnitine group will participate in 8 weeks of endurance training with the ingestion of l- carnitine supplement. Blood samples will take in basal state and after 8 weeks.
Category
Prevention

2

Description
second intervention group: The subjects of endurance exercise with placebo group will participate in 8 weeks of endurance training with the ingestion of placebo. Blood samples will take in basal state and after 8 weeks.
Category
Prevention

3

Description
Third intervention group: The subjects of l- carnitine group will participate in 8 weeks of ingestion of l- carnitine supplement. Blood samples will take in basal state and after 8 weeks.
Category
Prevention

4

Description
Control group: The subjects of control group (There will be no intervention). Blood samples will take in basal state and after 8 weeks.
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Sanandaj Branch, Islamic Azad University
Full name of responsible person
Maryam Ali-Mohammadi
Street address
Islamic Azad University, Pasdaran Blvd, Sanandaj
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
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
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
Islamic Azad University

Full name of responsible person
Maryam Ali- Mohammadi

Position
Phd Student

Latest degree
Ph.D.

Other areas of specialty/work
Sport Medicine

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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 relevant data and tests will be published without mentioning the name.

When the data will become available and for how long
Data will be available after the publication of the articles.

To whom data/document is available
All researchers can access the data.

Under which criteria data/document could be used
The possibility of using this data to analyze and write an article will not be given to individuals.

From where data/document is obtainable
By emailing the accountability officer, they can access the documentation.

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

After receiving the email, the file will be sent to the researchers.

Comments