Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

The effect of 6 weeks of high intensity training on supplementation of nano-curcumin on anti-oxidative and lipid peroxidation indices in overweight girls

Protocol summary

Study aim
effect of 6 weeks of high intensity interval training with nano-curcumin supplement on antioxidant and lipid degradation in overweight girls

Design
Applicants will be registered.Then 60 eligible people selected and During a brief ingsession, they will familiarize with the type of design, method of performing the initial test (pre-test), attend training sessions and post-test. In this session, Subjects will complete the Research consent form and the General Health Questionnaire form.Then subjects will be randomly divided into 4 groups of exercise, exercise-supplement, supplement and control group. then biochemical tests and initial anthropometric measurements will be performed and The intervention will be performed for 6 weeks . Then Experiments will be repeated after 6 weeks and the data will be analyzed.

Settings and conduct
Participants will be trained at Shahid Chamran University'of Ahwaz for 6 weeks and 3 session per week.

Participants/Inclusion and exclusion criteria
Entry requirements: Having a BMI between 25 and 30 Kilograms per square meter Having physical and mental health Having low activity level Having age between 18 and 28 years Non-inclusion criteria: taking medicine or supplement , Alcohol and smoking Being infected various diseases

Intervention groups
The present study will be implemented in four groups: intervention group 1: training, intervention group 2: Supplement-training ,intervention group 3: Supplement, interventiongroup 4: control. training and supplement-training groups will be paid to high intensity interval training for 6 weeks.The supplement and exercise-supplement group will receive a 80 mg nano-curcumin capsule on a daily for 6 weeks.While the control group will not have any regular physical activity.

Main outcome variables
superoxide dismutase; glutathione peroxidase; glutathione; catalase; total antioxidant capacity, malondialdehyde

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20180927041150N1**
Registration date: **2019-08-29, 1398/06/07**
Registration timing: **prospective**

Last update: **2019-08-29, 1398/06/07**
Update count: **0**

Registration date
2019-08-29, 1398/06/07

Registrant information

Name
Somaye Fakhri

Name of organization / entity
Shahid Chamran University

Country
Iran (Islamic Republic of)

Phone
+98 71 3750 0104

Email address
fakhri.somayeh1992@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2019-09-05, 1398/06/14

Expected recruitment end date

2019-09-19, 1398/06/28

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of 6 weeks of high intensity training on supplementation of nano-curcumin on anti-oxidative and lipid peroxidation indices in overweight girls

Public title

The effect of high intensity training with taking curcumin supplement on oxidative defense and lipid degradation

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Having a BMI between 25 and 30 Kilograms per square meter Having physical and mental health Having low activity level Having age between 18 and 28 years

Exclusion criteria:

taking medicine or supplement , Alcohol and smoking Being infected various diseases Such as diabetes, thyroid, hypertension, respiratory heart disease

Age

From **18 years** old to **28 years** old

Gender

Female

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

Randomization description

In this research, a simple randomization method will be used. The participants will be divided into 4 groups of 15 people. For this purpose, It is written from 1 to 4 numbers, (There are 15 Repeat from each number) on the paper. Participants are asked that Each person take a number. so They will be grouped based on the number they picked.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Factorial

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Shahid Chamran University of ahvaz

Street address

Golestan Blvd.

City

Ahvaz

Province

Khouzestan

Postal code

6135783151

Approval date

2018-03-14, 1396/12/23

Ethics committee reference number

IR.AJUMS.REC.1396.85899

Health conditions studied

1

Description of health condition studied

obosity and overweight

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Malondialdehyde was considered as a lipid degradation mark.

Timepoint

Measurement of malondialdehyde levels prior to the start of a 6-week training period and 48 hours after the end of the training period

Method of measurement

Laboratory and spectrophotometric method

2

Description

Superoxide dismutase was considered as an antioxidant index.

Timepoint

Measurement of superoxide dismutase levels prior to the beginning of the 6-week training period and 48 hours after the end of the training period

Method of measurement

Laboratory

3

Description

Glutathione peroxidase was considered as an anxiolytic agent.

Timepoint

Measurement of glutathione peroxidase levels before the beginning of the 6-week training period and 48 hours after the end of the training period.

Method of measurement

Laboratory

4

Description

Catalase was considered as an anxiolytic agent.

Timepoint

Measurement of catalase levels before the beginning of the 6-week training period and 48 hours after the end of the training period.

Method of measurement

Laboratory

5

Description

Glutathione was considered as an anxiolytic agent.

Timepoint

Measurement of glutathione levels before the start of the 6-week training period and 48 hours after the end of the training period

Method of measurement

Laboratory

6

Description

Total antioxidant capacity was considered as anxiolytic index.

Timepoint

Measurement of total antioxidant capacity levels before the start of the 6-week training period and 48 hours after the end of the training period

Method of measurement

Laboratory

Secondary outcomes

empty

Intervention groups

1

Description

The training group will perform high intensity interval training with 85% to 95% maximum heart rate for 6 weeks (3 sessions per week)

Category

Prevention

2

Description

The training-supplement group will perform high intensity interval training with 85% to 95% maximum heart rate for 6 weeks (3 sessions per week) also They will receive an 80-mg capsule of nano-curcumin daily

Category

Prevention

3

Description

Intervention group: Supplement, this group will receive an 80-mg capsule of nano-curcumin daily

Category

Prevention

4

Description

Control group: This group will not have regular physical activity and will not receive any supplement.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Shahid Chamran University of Ahvaz

Full name of responsible person

Šomaye Fakhri

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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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
Shahid Chamran university of Ahvaz
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
Shahid Chamran university of Ahvaz
Full name of responsible person
Somaye Fakhri
Position
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
Undecided - It is not yet known if there will be a plan to make this available
Informed Consent Form
Undecided - It is not yet known if there will be a plan to make this available
Clinical Study Report
Undecided - It is not yet known if there will be a plan to make this available
Analytic Code
Undecided - It is not yet known if there will be a plan to make this available
Data Dictionary
Undecided - It is not yet known if there will be a plan to make this available