

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Determination of the effect of tomato juice consumption on Total Antioxidant Capacity, Superoxide Dismutase, Glutathione Peroxidase, Catalase and Malondialdehyde in overweight and obese female students of Shiraz University of Medical Sciences and comparing the results between overweight and obese subjects

Protocol summary

Summary

Determination of the effect of tomato juice consumption on blood antioxidative biomarkers in overweight and obese female students of Shiraz University of Medical Sciences. Inclusion criteria: female, age between 20 and 30 years. Exclusion criteria: having any inflammatory diseases, including diabetes, CVD, multiple sclerosis, rheumatoid arthritis, cancers, asthma and allergies. Intake of any medication or vitamin/mineral supplement or any tobacco products. This study was a randomized controlled clinical trial conducted in 64 overweight or obese (BMI=25 kg/m² or higher) female students who were recruited from Shiraz University of Medical Sciences. Subjects randomly divided into intervention (n=32) and control (n=32) groups and received tomato juice (330 ml/d) or water respectively for 20 days. At baseline and day 20, plasma TAC, erythrocyte SOD, GPx, and CAT and serum MDA were analysed and compared between two groups. Subgroup analysis also was performed with subjects divided as overweight or obese, according to their baseline BMI values.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014051017628N1**
Registration date: **2014-06-22, 1393/04/01**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-06-22, 1393/04/01

Registrant information

Name

Mahsa Ghavipour

Name of organization / entity

Shiraz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 71 1212 2333

Email address

graduate@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

The cost was paid by the first Executive (Mahsa Ghavipour) and was conducted in Shiraz University of Medical Sciences

Expected recruitment start date

2013-06-22, 1392/04/01

Expected recruitment end date

2013-07-11, 1392/04/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Determination of the effect of tomato juice consumption on Total Antioxidant Capacity, Superoxide Dismutase, Glutathione Peroxidase, Catalase and Malondialdehyde in overweight and obese female students of Shiraz University of Medical Sciences and comparing the results between overweight and obese subjects

Public title

Effect of tomato juice consumption on blood antioxidative biomarkers

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: female, age between 20 and 30 years.

Exclusion criteria: having any inflammatory diseases, including diabetes, CVD, multiple sclerosis, rheumatoid arthritis, cancers, asthma and allergies. Intake of any medication or vitamin/mineral supplement or any tobacco products

Age

From 20 years old to 30 years old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 64

Randomization (investigator's opinion)

Randomized

Randomization description

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

Tehran University of Medical Sciences

Street address

Tehran University of Medical Sciences, Health College, Enghelab street

City

Tehran

Postal code

Approval date

2010-04-16, 1389/01/27

Ethics committee reference number

10492

Health conditions studied

1

Description of health condition studied

overweight

ICD-10 code

E66.9

ICD-10 code description

Simple obesity NOS

2

Description of health condition studied

obese

ICD-10 code

E66.0

ICD-10 code description

چاقی ناشی از کالری اضافی

Primary outcomes

1

Description

total antioxidant capacity

Timepoint

before the intervention and 20 days after that

Method of measurement

in plasma by spectrophotometric method according to mg/dl

2

Description

superoxide dismutase

Timepoint

before the intervention and 20 days after that

Method of measurement

in erythrocytes enzymatic method according to U/gHb

3

Description

glutathione peroxidase

Timepoint

before the intervention and 20 days after that

Method of measurement

in erythrocytes using hydrogen peroxide according to U/gHb

4

Description

catalase

Timepoint

before the intervention and 20 days after that

Method of measurement

in erythrocytes by spectrophotometric method according to U/gHb

5

Description

malondialdehyde

Timepoint

before the intervention and 20 days after that

Method of measurement

in serum according to $\mu\text{mol/ml}$

Secondary outcomes

empty

Intervention groups

1

Description

intervention group: 330 ml/d tomato juice for 20 days, 110 ml with their main meal (three times a day)

Category

Prevention

2

Description

control group: 330 ml/d for 20 days, 110 ml with their main meal (three times a day)

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Shiraz University of Medical Sciences

Full name of responsible person

Mrs, maryam chamari

Street address

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

with personal expenses in Shiraz University of Medical Sciences

Full name of responsible person

Mahsa Ghavipour

Street address

Shiraz University of Medical Sciences, Zand street

City

Shiraz

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

with personal expenses in Shiraz University of Medical Sciences

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

Contact

Name of organization / entity

Shiraz University of Medical Sciences

Full name of responsible person

Mahsa Ghavipour

Position

MSc of nutrition

Other areas of specialty/work

Street address

Zand street, Shiraz University of Medical Sciences

City

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+98 71 1212 2333

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Email

mahsaghavipour@gmail.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Shiraz University of Medical Sciences

Full name of responsible person

Mahsa Ghavipour

Position

MSc of Nutrition Sciences

Other areas of specialty/work

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Fax

Email

mahsaghavipour@gmail.com

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Shiraz University of Medical Sciences

Full name of responsible person

Mahsa Ghavipour

Position

MSc of nutrition

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Street address

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Fax

Email

Web page address

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