Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The effect of pomegranate juice consumption on antioxidant and oxidant variables after exercise in young men.

Protocol summary

Summary

Introduction and Objectives: Severe physical activity in athletes is cause of oxygen consumption and free radicals production by decreasing of total antioxidant capacity and increasing of oxidative stress. Thus, the consumption of antioxidant supplements can be useful in athletes. Pomegranate is rich of antioxidant compounds can be effective in strengthening of body antioxidant capacity. The aim of this study is the survey of the effect of pomegranate juice on total antioxidant capacity in athletes. Methods: In a clinical trial study 30 healthy male student athletes will be selected and randomly divided into two groups of control and supplement (15 subjects for each group). Healthy male athlete students, age between 18 - 40 years old, living in Ardabil University of Medical Sciences Boarding will be included. People with having certain diseases, non-athletes, smoking, and consumption of other supplements will be excluded. Interventions of study will be having pomegranate juice and exhaustive training. Interventional and control groups intake of 240 cc pomegranate juice and tap water per day for two weeks, respectively. Then both groups will be done once exhaustive exercise. Fasting blood samples from both groups will be taken for testing of MDA, antioxidant substances, activities of antioxidant enzymes, and other parameters at the beginning and the end of supplementation period and exhaustive training. Then data were analysis and two groups will be compared.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201012255144N2**
Registration date: **2011-09-17, 1390/06/26**
Registration timing: **registered_while_recruiting**
Last update:
Update count: **0**

Registration date

2011-09-17, 1390/06/26

Registrant information

Name
Ali Nemati
Name of organization / entity
Ardabil University of Medical Sciences
Country
Iran (Islamic Republic of)
Phone
+98 45 3351 0052
Email address
a.nemati@arums.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research, Ardabil University of Medical Sciences

Expected recruitment start date

2011-04-09, 1390/01/20

Expected recruitment end date

2011-12-22, 1390/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of pomegranate juice consumption on antioxidant and oxidant variables after exercise in young men.

Public title

The effect of pomegranate juice consumption on antioxidant and oxidant variables after exercise in young

men.

Purpose
Prevention

Inclusion/Exclusion criteria
Inclusion criteria; healthy male students athlete, at age between 18 - 40 years old, living in Ardabil University of Medical Sciences Boarding. Exclusion criteria; people with have certain diseases, non-athletes, smoking, and consumption of other supplements.

Age
From **18 years** old to **40 years** old

Gender
Male

Phase
2-3

Groups that have been masked
No information

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Not 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 Ardabil University of Medical sciences

Street address
Vice Chancellor for Research, The Site of Ardabil University of Medical Sciences, The end of Daneshgah Avenue, Ardabil

City
Ardabil

Postal code
5618985991

Approval date
2011-07-21, 1390/04/30

Ethics committee reference number
1/901

Health conditions studied

1

Description of health condition studied
Athletic healthy individuals

ICD-10 code
Z02.5

ICD-10 code description
Examination for participation in sport

Primary outcomes

1

Description
Exhaustion time

Timepoint
At the end of once training

Method of measurement
The signs and symptoms related to the complete exhaustion

Secondary outcomes

1

Description
Malondialdehyde

Timepoint
At the beginning and the end of intervention

Method of measurement
Spectrophotometry

2

Description
Total antioxidant capacity

Timepoint
At the beginning and end of intervention

Method of measurement
Spectrophotometry

3

Description
Weight

Timepoint
At the beginning of intervention

Method of measurement
Digital scales

4

Description
Height

Timepoint
At the beginning intervention

Method of measurement
Stadiometers

5

Description
Glutathione

Timepoint
At the beginning and the end of intervention

Method of measurement
ELISA

6

Description
Total cholesterol
Timepoint
At the beginning and end of intervention
Method of measurement
Spectrophotometry

7

Description
Cu
Timepoint
At the beginning and the end of intervention
Method of measurement
Atomic absorption spectrophotometry

8

Description
Zn
Timepoint
At the beginning and the end of intervention
Method of measurement
Atomic absorption spectrophotometry

9

Description
Mg and ...
Timepoint
At the beginning and the end of intervention
Method of measurement
Atomic absorption spectrophotometry

10

Description
Fe
Timepoint
At the beginning and end of intervention
Method of measurement
Spectrophotometry

11

Description
Glutathione peroxidase
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

12

Description
Paraoxonase 1
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectophotometry

13

Description
Superoxide desmutase
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

14

Description
Matrix metalloproteinase 9
Timepoint
At the beginning and the end of intervention
Method of measurement
ELISA

15

Description
Ceruloplasmin
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

16

Description
LDL-C
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

17

Description
HDL-C
Timepoint
At the beginning and end of intervention
Method of measurement
Spectrophotometry

18

Description
Triglyceride
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

19

Description
Fasting blood suger
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

20

Description
Urea
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

21

Description
Creatinine
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

22

Description
Bilirubin
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

23

Description
Uric acid
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

24

Description
Aspartate Aminotransferase
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

25

Description
Alanine Aminotransferase
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

26

Description
Vitamin C
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

27

Description
Matrix metalloproteinase 2
Timepoint
At the beginning and the end of intervention
Method of measurement
ELISA

28

Description
high sensitivity C- Reactive Protein
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

29

Description
Interleukin 6
Timepoint
At the beginning and the end of intervention
Method of measurement
ELISA

30

Description
Interleukin 1
Timepoint
At the beginning and the end of intervention
Method of measurement
ELISA

31

Description
Interleukin 2
Timepoint
At the beginning and the end of intervention
Method of measurement
ELISA

32

Description
Arylesterase
Timepoint
At the beginning and the end of intervention
Method of measurement
Spectrophotometry

33

Description
Cell Blood Count, Hemoglobin and Hematocrit
Timepoint
At the beginning and the end of intervention
Method of measurement
Cell Counter

Intervention groups

1

Description
Given 240 cc daily of pomegranate juice to interventional group for two weeks. Given once training until exhaustive status to interventional group.
Category
Other

2

Description
Given 240 cc daily of tap water to control group for two weeks Given once training until exhaustive status to control group
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Ardabil University of Medical Sciences
Full name of responsible person
Ali Shadman
Street address
Basic Sciences Group, Faculty Medicine, Ardabil University of Medical Sciences
City
Ardabil

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice Chancellor for Research, Ardabil University of Medical Sciences
Full name of responsible person
Hadii Pyrii
Street address
Vice Chancellor for Research, The Site of Ardabil University of Medical Sciences, The end of Daneshgah Avenue, Ardabil
City
Ardabil
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Vice Chancellor for Research, Ardabil 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

Person responsible for scientific inquiries

Contact
Name of organization / entity
Assistant Professor
Full name of responsible person
Mohammad Mazani
Position
PhD of Clinical Biochemistry
Other areas of specialty/work
Street address
Basic Sciences Group, Faculty of Medicne, Ardabil University of Medical Sciences, Daneshgah Avenue, Shahid Yousri Street, Over Shorabil Lake, Ardabil
City
Ardabil
Postal code
5618953141
Phone
+98 45 1551 0052
Fax
+98 451551057
Email
m.mazani@arums.ac.ir
Web page address
http//:www.arums.ac.ir

Person responsible for updating data

Contact
Name of organization / entity
Ardabil University of Medical Sciences
Full name of responsible person
Mohammad Mazani
Position
PhD of Clinical chemistry
Other areas of specialty/work
Street address
Basic Sciences Group, Faculty of Medicne, Ardabil University of Medical Sciences, Daneshgah Avenue, Shahid Yousri Street, Over Shorabil Lake, Ardabil
City
Ardabil
Postal code
5618953141
Phone
+98 45 1551 0052
Fax

+98 45 1551 0057

Email

m.mazani@arums.ac.ir

Web page address

http//:www.arums.ac.ir

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