

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

The effect of probiotic yogurt intake in the prevention of oxidative stress and inflammatory factors in young females after exhaustive exercise.

Protocol summary

Summary

Objectives: Probiotics are defined as live microorganisms possess antioxidant and anti-inflammatory activity. This study is designed the effect of probiotic yogurt on oxidative stress and inflammatory markers in young women athletes after exhaustive exercise. Design: 30 healthy female students will be selected in both groups (15 controls and 15 experiments) at age 30-18 years. 500 ml probiotic yogurt and 500 ml ordinary yogurt will be taken to control and experiment groups for two weeks, respectively. Setting and Conduct: Fasting blood samples are taken for both groups at the beginning and end of the supplementation. Exhaustive exercise session will be given to both groups at the 15th day. Fasting blood samples are taken at the end of exhaustive exercise. Blood samples will be used to test of biochemical and inflammatory factors. Participants including major eligibility criteria: Young healthy males with moderate physical activity in 18-30 years old. Exclusion criteria for participant selection, including: Individuals with diseases; smoking; alcoholism and other supplements consumption; having certain dietary; professional training; sedentary and having 25 and less than 18.5 kg.m². Interventions: Probiotic yogurt and exhaustive exercise. Variables: Superoxide dismutase, Glutathione peroxidase, Malondialdehyde, Interlukine-6, Tumor necrosis factor-alpha, hs-CRP, Catalase, Matrix metalloproteinase-2 and 6.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201307105144N4**

Registration date: **2014-02-20, 1392/12/01**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2014-02-20, 1392/12/01

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

2013-12-22, 1392/10/01

Expected recruitment end date

2014-04-19, 1393/01/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of probiotic yogurt intake in the prevention of oxidative stress and inflammatory factors in young females after exhaustive exercise.

Public title

The effect of probiotic yogurt intake in the prevention of oxidative stress and inflammatory factors in young females after exhaustive exercise.

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusion criteria: Young healthy females with moderate physical activity in 18-30 years old. Exclusion criteria: Individuals with any diseases; smoking; alcoholism and other supplements consumption; having certain dietary; professional training; sedentary and having BMI over 25 and less than 18.5 kg.m².

Age

From **18 years** old to **30 years** old

Gender

Female

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

Ethics Committee of Ardabil University of Medical Sciences, Vice Chancellor for Research, Ardabil University of Medical Sciences, Ardabil University of Medical Sciences, Daneshgah Avenue, Ardabil, Iran

City

Ardabil

Postal code

5318985991

Approval date

2012-09-22, 1391/07/01

Ethics committee reference number

arums 1018

Health conditions studied

1

Description of health condition studied

Young healthy females

ICD-10 code

Z02.5

ICD-10 code description

Examination for participation in sport

Primary outcomes

1

Description

Exhaustive exercise time

Timepoint

At the end of exercise

Method of measurement

With signs and symptoms of exhaustion

Secondary outcomes

1

Description

Weight

Timepoint

At the beginning of intervention

Method of measurement

Digital scales

2

Description

Height

Timepoint

At the beginning of intervention

Method of measurement

Stadiometers

3

Description

Malondialdehyde

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

4

Description

Catalase

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

5

Description

Total antioxidant capacity

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

6

Description

Superoxide dismutase

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

7

Description

Glutathione peroxidase

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

8

Description

Matrix metalloproteinase-2

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

ELISA

9

Description

Interlukine-6

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

ELISA

10

Description

Tumor necrosis factor-alpha

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

ELISA

11

Description

hs-CRP

Timepoint

At the beginning of intervention, previous and after of

exercise

Method of measurement

Immunturbidimetry

12

Description

Paraoxonase-1

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

13

Description

Arylesterase

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

14

Description

HDL-cholesterol

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

15

Description

LDL-cholesterol

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

16

Description

Triglyceride

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

17

Description

Hemoglobin

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

18

Description

Total cholesterol

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

19

Description

Copper

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Atomic absorptions spectrophotometry

20

Description

Zinc

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Atomic absorptions spectrophotometry

21

Description

Magnesium

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Atomic absorptions spectrophotometry

22

Description

Ceruloplasmin

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

23

Description

Ascorbic acid

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

Spectrophotometry

24

Description

Matrix metalloproteinase-9

Timepoint

At the beginning of intervention, previous and after of exercise

Method of measurement

ELISA

Intervention groups

1

Description

Given 500 ml/day probiotic yogurt for 14 days and once exhaustive exercise for intervention group.

Category

Other

2

Description

Given 500 ml/day ordinary yogurt for 14 days and once exhaustive exercise for control group.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Ardabil University of Medical Sciences

Full name of responsible person

Kobra Heydari

Street address

Biochemistry Dept, Ardabil University of Medical Sciences, Ardabil University of Medical Sciences, Daneshgah Avenue, Ardabil, Iran.

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

Hadi Peeri

Street address

Vice Chancellor for Research Ardabil University of Medical Sciences, Ardabil University of Medical Sciences, Daneshgah Avenue, Ardabil, Iran.

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

Name of organization / entity

Ardabil University of Medical Sciences

Full name of responsible person

Kobra Heydari

Position

Student of MSc

Other areas of specialty/work

Street address

Biochemistry Dept, Ardabil University of Medical
Sciences, Ardabil University of Medical Sciences,
Daneshgah Avenue, Ardabil, Iran.

City

Ardabil

Postal code

5155653466

Phone

+98 44 1383 1568

Fax

+98 45 1551 3776

Email

k.heydari1977@yahoo.com

Web page address

<http://www.arums.ac.ir>

**Person responsible for scientific
inquiries**

Contact

Name of organization / entity

Ardabil University of Medical Sciences

Full name of responsible person

Mohammad Mazani

Position

PhD of Clinical Biochemistry

Other areas of specialty/work

Street address

Biochemistry Dept, Faculty of Medicine, University of
Medical Sciences, Daneshgah Avenue, Ardabil, Iran

City

Ardabil

Postal code

5618953141

Phone

+98 45 1551 2788

Fax

+98 45 1551 3776

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 Biochemistry

Other areas of specialty/work

Street address

Biochemistry Dept, Faculty of Medicine, University of
Medical Sciences, Daneshgah Avenue, Ardabil, Iran

City

Ardabil

Postal code

5618953141

Phone

+98 45 1551 2788

Fax

+98 45 1551 3776

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