

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effect of 12 weeks of aerobic exercise training on sex hormones and blood markers of airway inflammation in mid luteal phase of asthmatics women

Protocol summary

Summary

The aim of the present study was to investigate the effect of 12 weeks of aerobic exercise training on sex hormones and blood markers of airway inflammation in mid-luteal phase of asthmatics women. 24 women with mild to moderate asthma and regular menstrual cycles were selected and divided into two groups including experimental (n=13) and control (n=11) groups. The experimental group performed aerobic exercise training, and the control group remained inactive. The exercise program lasted for 12 weeks, three sessions a week. Each training session consisted of 15 minutes warm up, 30-minute walk on the treadmill with 60-80% of patients' maximum heart rate and 15 minutes of breathing exercises and cool-down. To reduce problems such as exercise-induced asthma during exercise, American college sport medicine guidelines were used. Before and 24 hours after the last training session, body mass index, VO₂peak and blood inflammatory markers such as immunoglobulin E, Eosinophil%, IL-4, IL-5 and IL-13 and also spirometry were measured

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016052328028N1**

Registration date: **2017-01-05, 1395/10/16**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-01-05, 1395/10/16

Registrant information

Name

Azam Zarneshan

Name of organization / entity

Azarbaijan Shahid Madani University

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Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Urmia University of Medical Sciences and Researcher

Expected recruitment start date

2016-02-20, 1394/12/01

Expected recruitment end date

2016-09-05, 1395/06/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of 12 weeks of aerobic exercise training on sex hormones and blood markers of airway inflammation in mid luteal phase of asthmatics women

Public title

Effect of aerobic exercise training on inflammatory markers and sex hormones in asthmatic women

Purpose

Health service research

Inclusion/Exclusion criteria

Inclusion criteria: mild to moderate asthma; inactive; regular menstrual cycle and Exclusion criteria: menstrual

disorders; smoking; cardiovascular diseases; other pulmonary diseases

Age

From **25 years** old to **42 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Not 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

Ethic Committee of Urmia University of Medical Sciences

Street address

Urmia University of Medical Sciences and Health Service, Next Emergency Center, Resalat Blvd

City

Urmia

Postal code

57147833734

Approval date

2016-04-30, 1395/02/11

Ethics committee reference number

ir.umsu.rec.1395.81

Health conditions studied

1

Description of health condition studied

Asthma

ICD-10 code

J45

ICD-10 code description

Asthma

Primary outcomes

1

Description

Eosinophil%

Timepoint

At baseline and after 3 month exercise training

Method of measurement

Blood collection, CBC-PBS

2

Description

IgE

Timepoint

at baseline and after 3 month exercise training

Method of measurement

Blood collection, immunoassay system (Siemens,USA)

3

Description

IL-4,IL-5,IL-13

Timepoint

At baseline and after 3 month exercise training

Method of measurement

Blood collection, sandwich ELISA kits (R&D, Minneapolis, MN)

4

Description

Estrogen

Timepoint

At baseline and after 12 weeks exercise training

Method of measurement

Blood collection, Inestrumet Chemiluminescence Liaison(Diasorin)-Germany

5

Description

Progesterone

Timepoint

At baseline and after tree month exercise training

Method of measurement

Blood collection, Chemiluminescence Liaison(Diasorin)-Germany

Secondary outcomes

1

Description

Body Mass Index(BMI)

Timepoint

At baseline and after 3 month exercise training

Method of measurement

Omron Body Composition Monitor, Germany

2

Description

Forced expiratory volume in 1 second

Timepoint

At baseline and after 3 month exercise training

Method of measurement

Spirometer model ST-95 Fukuda. Sanjio. Spiroanalyzer, Japan

3

Description

Vo2peak

Timepoint

At baseline and after 3 month exercise training

Method of measurement

Modified Astrand Treadmill test

Intervention groups

1

Description

Intervention : participating in aerobic training in 12 weeks, 3 times a week, 60 minutes each session.

Category

Lifestyle

2

Description

Control: no intervention for control group.

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Sahand Clinic

Full name of responsible person

Mahdia Gholamnejad

Street address

Sahand Clinic, Varzesh Ave, Urmia, Iran

City

Urmia

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, University of Urmia

Full name of responsible person

Maghsud Solimanpur

Street address

Faculty of Engineering, Urmia University, Urmia, Iran

City

Urmia

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, University of Urmia

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

Azerbaijan Shahid Madani University

Full name of responsible person

Azam Zarneshan

Position

Ph.D. Student In Exercise Physiology Of Urmia University / Faculty Member Of Azerbaijan Shahid Mada

Other areas of specialty/work

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Person responsible for scientific inquiries

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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*