

Clinical Trial Protocol

Iranian Registry of Clinical Trials

29 Jun 2026

The effect of rehabilitation (strength and endurance exercises) on respiratory symptoms, lung function indexes and some inflammatory mediators in asthmatic patients.

Protocol summary

Study aim

Effect of strength and endurance exercises on respiratory symptoms, lung function and inflammatory mediators in asthmatic patients.

Design

Intervention is limited to one group of eligible applicants (30 people) without randomization. This study does not have a control group.

Settings and conduct

Exercises will be done for 4 weeks (3 sessions/week). During each session after 10 minutes warming up, endurance training includes treadmills, bicycle and arm ergonomic for 15-20 minutes with Vo₂ max = 60% for Elementary sessions, and gradually 60 minutes with Vo₂ max = 70-80% for final sessions. Upon completion of endurance training, resistance training include weight lifting. In this exercise, one repetition maximum of the person is calculated first and 50-60% of the 1RM for a set with 15-10 repeats. Gradually, the sets number will reach 3. Static stretching of the entire body and finally cool down for 10 minutes.

Participants/Inclusion and exclusion criteria

Mild to moderate asthma : Absence of acute illnesses that are in contradiction with exercise : Age limit 20 to 60 years Severe asthma and acute diseases that is exacerbated by exercise : Cardiovascular and chronic inflammatory diseases : Acute infections :Malignant diseases and immune deficiency

Intervention groups

After diagnosis of asthma of participants, patients in one group are subjected to intervention with strength and endurance exercises . At the end of the project (30 days), to determine the effect of the intervention, the rate Changes in lung function and asthma attacks , clinical signs, changes in asthma attacks, total and types of WBCs and inflammatory factors will be measured

Main outcome variables

Evaluation of disease symptoms and lung function tests
Measurement of Eosinophil peroxidase, C-reactive protein, eNO Total and types of WBCs Measurement cytokines and inflammatory mediators (TNF α , IL-6 , IL-8, IgE , IgG) in serum

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180418039348N2**
Registration date: **2018-07-14, 1397/04/23**
Registration timing: **registered_while_recruiting**

Last update: **2018-07-14, 1397/04/23**

Update count: **0**

Registration date

2018-07-14, 1397/04/23

Registrant information

Name

Javad Boskabadi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 51 3657 9723

Email address

boskabadij901@mums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-07-11, 1397/04/20

Expected recruitment end date

2019-03-21, 1398/01/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of rehabilitation (strength and endurance exercises) on respiratory symptoms, lung function indexes and some inflammatory mediators in asthmatic patients.

Public title

The effect of rehabilitation on respiratory symptoms and lung function indexes

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

Mild to moderate bronchial asthma disease based on spirometric testing and having clinical symptoms of respiratory tract
Absence of acute illnesses that are in contradiction with exercise
Age limit 20 to 60 years
Giving written consent
Having a commitment to doing research steps

Exclusion criteria:

Severe asthma that is exacerbated by exercise
Acute diseases that are exacerbated by exercise
Cardiovascular disease
Chronic inflammatory diseases
Acute infections
Malignant diseases
Having autoimmune diseases and immune deficiency

Age

From **20 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

N/A

Randomization description**Blinding (investigator's opinion)**

Not blinded

Blinding description**Placebo**

Not used

Assignment

Single

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

کمیته اخلاق دانشگاه علوم پزشکی مشهد

Street address

مشهد، بلوار شهید فکوری، حدفاصل میدان شهید جوان و آل شهیدی، شهرک دانش و سلامت

City

Mashhad

Province

Razavi Khorasan

Postal code

91778-99191

Approval date

2017-03-04, 1395/12/14

Ethics committee reference number

IR.MUMS.fm.REC.1395.530

Health conditions studied**1****Description of health condition studied**

Asthma

ICD-10 code

Asthma

ICD-10 code description

J45

Primary outcomes**1****Description**

Improvement in respiratory status and spirometry tests

Timepoint

At the beginning of the study and 30 days after the start of the study

Method of measurement

Measurement with using a spirometer device and pulmonary function tests

2**Description**

Measuring cytokines and inflammatory mediators (such as IgE , IgG TNF α , IL-6 and IL-8) in serum

Timepoint

At the beginning of the study and 30 days after the start of the study

Method of measurement

Use of special kits and protocols

3**Description**

Total number and types of white blood cells in the blood

Timepoint

At the beginning of the study and 30 days after the start of the study

Method of measurement

Using a special laboratory device for counting white

blood cells

Secondary outcomes

1

Description

Measurement concentration of fractional exhaled nitric oxide (FeNO)

Timepoint

At the beginning of the study and 30 days after the start of the study

Method of measurement

Use of special kits and protocols

2

Description

Measurement of C-reactive protein (CRP)

Timepoint

At the beginning of the study and 30 days after the start of the study

Method of measurement

Use of special kits and protocols

Intervention groups

1

Description

Intervention group: Exercise exercises will be done for 4 weeks (3 sessions per week). During each session after warming up, for 10 minutes, endurance training includes treadmills, bicycle and arm ergonomic for 15-20 minutes with Vo2 max = 60% for Elementary sessions, and gradually 60 minutes with Vo2 max = 70-80% for final sessions. Upon completion of endurance training, resistance training include weight lifting. In this exercise, one repetition maximum of the person is calculated first and 50-60% of the 1RM for a set with 15-10 repeats. Gradually, the number of sets will reach 3. Static stretching of the entire body and finally cool down for 10 minutes.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Heart and lung rehabilitation department of Imam Reza Hospital, Mashhad

Full name of responsible person

Mohammad Sadegh Haghi

Street address

Khorasan Razavi - Mashhad - Imam Reza Hospital Square (AS) - Imam Reza Hospital

City

Mashhad

Province

Razavi Khorasan

Postal code

9137913316

Phone

+98 51 3854 3031

Email

emamreza@mums.ac.ir

Web page address

http://emamreza.mums.ac.ir/

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Dr. Mohsen Tafaghodi (Research Deputy of Mashhad University of Medical Sciences)

Street address

Ghoreishi building, Daneshgah Street Mashhad Khorasan Razavi Iran, Islamic Republic of Iran

City

Mashhad

Province

Razavi Khorasan

Postal code

91375-345

Phone

+98 51 3882 3255

Email

Tafaghodim@mums.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Mashhad University of Medical Sciences

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

Mashhad University of Medical Sciences

Full name of responsible person

Javad Boskabadi

Position

Lack scientific grade-Pharmacist

Latest degree

Medical doctor

Other areas of specialty/work

Medical Pharmacy

Street address

Departement of Physiology - Mashhad University of
Medical Sciences - Azadi Square - Mashhad - Iran

City

Mashhad

Province

Razavi Khorasan

Postal code

9766167367

Phone

+98 51 3882 8883

Email

boskabadij901@mums.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Mohammad hosein Boskabady

Position

Professor

Latest degree

Specialist

Other areas of specialty/work

Physiology

Street address

Departement of Physiology - Mashhad University of
Medical Sciences - Azadi Square - Mashhad - Iran

City

Mashhad

Province

Razavi Khorasan

Postal code

9177948564

Phone

+98 51 3882 8883

Email

boskabadyhm@mums.ac.ir

Person responsible for updating data

Contact

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Javad Boskabadi

Position

Lack scientific grade-Pharmacist

Latest degree

Medical doctor

Other areas of specialty/work

Medical Pharmacy

Street address

Departement of Physiology - Mashhad University of
Medical Sciences - Azadi Square - Mashhad - Iran

City

Mashhad

Province

Razavi Khorasan

Postal code

9766167367

Phone

+98 51 3882 8883

Email

boskabadij901@mums.ac.ir

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

Yes - There is 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

Title and more details about the data/document

Data information will be published in article form.

When the data will become available and for how long

Starting data access is six months after the article is printed.

To whom data/document is available

Researchers in the field of medical science will be able to access the data.

Under which criteria data/document could be used

Investigating requests will be reviewed by the research team.

From where data/document is obtainable

Applicants must only coordinate with the responsible designer (Dr. Mohammad Hossein Boskabady) with access to the data only with the help of e-mail. Email address: boskabadyhm@mums.ac.ir

What processes are involved for a request to access data/document

After sending the request to the email of the responsible designer and the review of the type of request will eventually be notified within twenty days.

Comments