Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

Investigating the Effect of 8 weeks of combined, intermittent, and continuous aerobic training on lung volumes and capacities and indicators of respiratory pulmonary necrosis and performance of military personnel in a cold climate

Protocol summary

Study aim

Investigating the effect of the long duration of complex training, continuous and interval aerobic on performance and some necrosis indexes and capacities of the pulmonary system of military personnel in a cold and mountainous climate

Design

A clinical trial with randomized parallel groups of 40 participants will run from March 11 to April 21, 2022.

Settings and conduct

High-intensity intermittent aerobic exercise group, moderate-intensity continuous aerobic exercise group, moderate-intensity combined exercise group will train for eight weeks and three sessions per week. The control group will be community-based and without practice. All measurements and exercises will be measured in the Ashura Division of Tabriz.

Participants/Inclusion and exclusion criteria

Conditions for participation in the study: no regular exercise, no smoking, no history of cardiovascular disease, blood, liver, respiratory diseases, no use of anti-inflammatory drugs such as bronchodilators (beta-receptor agonists) Like salbutamol, no anti-allergy, and no non-steroidal analgesics.

Intervention groups

High intensity intermittent aerobic exercise group, moderate intensity continuous aerobic exercise group, moderate intensity combined (resistance and plyometric and control group

Main outcome variables

Pulmonary capacity, fitness level, indicators of respiratory necrosis (Clara protein and superfectant D).

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210801052049N1**
Registration date: **2022-02-07, 1400/11/18**
Registration timing: **prospective**

Last update: **2022-02-07, 1400/11/18**
Update count: **0**

Registration date

2022-02-07, 1400/11/18

Registrant information

Name

simin ریاحی

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 8800 4098

Email address

riahy_simin@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-02-20, 1400/12/01

Expected recruitment end date

2022-04-21, 1401/02/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigating the Effect of 8 weeks of combined, intermittent, and continuous aerobic training on lung volumes and capacities and indicators of respiratory pulmonary necrosis and performance of military personnel in a cold climate

Public title
Effect of exercise on Respiratory function in cold climates
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
Male military personnel working in the city of Tabriz Age between 30 to 45 years
Exclusion criteria:
Not doing regular exercise No smoking No history of cardiovascular disease No blood diseases No liver disease No respiratory diseases Do not take anti inflammatory drugs and bronchodilators (beta-receptor agonists) such as salbutamol and nonsteroidal analgesics.
Age
From **30 years** old to **45 years** old
Gender
Male

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **40**
Randomization (investigator's opinion)
Randomized
Randomization description
The selection of volunteers is done by announcing in the battalion. For random grouping of volunteers in 4 experimental groups, the names of each individual were written on a piece of paper and placed inside the box, then we take out the papers one by one. The first 10 names are assigned to the combined exercise group, the second 10 to the intermittent aerobic, the third 10 to the continuous aerobic exercise group, and the last 10 to the control group
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Single
Other design features
None

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Army University of Medical Sciences
Street address
Iran ,Tehran, West Fatemi street
City
Tehran
Province
Tehran
Postal code
1411718541
Approval date
2021-07-26, 1400/05/04
Ethics committee reference number
IR.AJAUMS.REC.1400.089

Health conditions studied

1

Description of health condition studied
The subject is not the disease
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Pulmonary capacities
Timepoint
Before training and 48 hours after the last training session
Method of measurement
Spirometer

2

Description
Clara 16 protein in serum
Timepoint
Before training and 48 hours after the last training sessio
Method of measurement
Eliza

3

Description
Surfactant D protein in serum
Timepoint
Before initiation of training and 48 hours after the last training session
Method of measurement
Eliza

4

Description
Cardiovascular fitness
Timepoint
Before initiation of training and 48 hours after the last

training session

Method of measurement

Measurement the time required to run 3000 meters

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group1:They do moderate intensity combined training (plyometric and resistance) is performed for 1 hour, 3 days a week for 8 weeks

Category

Lifestyle

2

Description

Intervention group 2: Perform moderate intensity, continuous aerobic exercise for 1 hour a day, 3 days a week for 8 weeks

Category

Lifestyle

3

Description

Intervention group 3: Perform moderate intensity, intermittent aerobic exercise for 1 hour a day, 3 days a week for 8 weeks

Category

Lifestyle

4

Description

Control group: They do not exercise

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Lashkar Ashura of Tabriz

Full name of responsible person

Simin Riahy

Street address

Kasaei freeway

City

Tabriz

Province

East Azarbaijan

Postal code

14378350959

Phone

+98 21 4382 2360

Email

Riahy_simin@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Artesh University of Medical Sciences

Full name of responsible person

Mojtaba Yousefi Zashk

Street address

West Fatemi street

City

Tehran

Province

Tehran

Postal code

1411718541

Phone

+98 21 4382 2360

Email

Riahy_simin@yahoo.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Artesh 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

Artesh University of Medical Sciences

Full name of responsible person

Simin Riahy

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Sport Medicine

Street address

West Fatemi Street

City

Tehran

Province

Tehran

Postal code
1411718541
Phone
+98 21 4382 2360
Email
Riahy_Simin@yahoo.com

Person responsible for scientific inquiries

Contact
Name of organization / entity
Artesh University of Medical Sciences
Full name of responsible person
Simin Riahy
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Sport Medicine
Street address
West Fatemi Street
City
Tehran
Province
Tehran
Postal code
1411718541
Phone
+98 21 4382 3260
Email
Riahy_simin@yahoo.com

Person responsible for updating data

Contact
Name of organization / entity
Artesh University of Medical Sciences
Full name of responsible person
Simin Riahy
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Sport Medicine
Street address
West Fatemi Street
City
Tehran
Province
Tehran
Postal code
1411718541
Phone
+98 21 4382 2360
Email
Riahy_simin@yahoo.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
No - There is not a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available
Title and more details about the data/document
The best training protocol in cold and mountainous weather
When the data will become available and for how long
About 6 months
To whom data/document is available
All researchers
Under which criteria data/document could be used
To improve physical activity in cold weather
From where data/document is obtainable
Article
What processes are involved for a request to access data/document
Search electronic resources
Comments