

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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 surfactant 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

ریاحی سیمین

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 session

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

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