Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

The effect of two types of intense interval training (HIIT) and aerobic continuity on pulmonary and cardiorespiratory functions of wrestlers recovered from corona disease

Protocol summary

Study aim

The purpose of this research is to investigate the effect of two types of intense interval training (HIIT) and continuous aerobics on the pulmonary and cardiorespiratory functions of wrestlers recovered from corona disease.

Design

The clinical trial will include two experimental groups and a control group with a sample size of 45 people, who will be placed in three groups of 15 people by simple random method.

Settings and conduct

Subjects will be invited to the sports hall of Islamic Azad University, Kermanshah branch to participate in the orientation session and will be randomly placed in three experimental groups. They will participate in the type of exercise. After the practice period, the post-exam phase was observed by the candidates again, according to the points related to the pre-exam phase.

Participants/Inclusion and exclusion criteria

The statistical population includes male wrestlers with an age range of 25-35 years who referred to sports clubs in Kermanshah city in 2022. All participants will be wrestlers who have recovered from corona disease with a history of at least 5 years of sports. None of the subjects will have a history of chronic diseases such as cardiovascular diseases, diabetes, various cancers, kidney and digestive disorders, or any type of injury or problem that prevents them from participating in physical activities.

Intervention groups

45 people will be invited to participate in the briefing session and randomly divided into three experimental groups: experimental group 1 (continuous aerobic exercise of 15 people), experimental group 2 (high-intensity interval training of 15 people) and control group 3 (without exercise 15 people) will be placed.

Main outcome variables

Pulmonary and cardio respiratory functions of wrestlers recovered from corona virus infection

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20221213056809N3**
Registration date: **2023-06-01, 1402/03/11**
Registration timing: **retrospective**

Last update: **2023-06-01, 1402/03/11**
Update count: **0**

Registration date

2023-06-01, 1402/03/11

Registrant information

Name

Vahid Kazemizadeh

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-10-24, 1401/08/02

Expected recruitment end date

2022-11-23, 1401/09/02

Actual recruitment start date

empty

Actual recruitment end date
empty
Trial completion date
empty

Scientific title
The effect of two types of intense interval training (HIIT) and aerobic continuity on pulmonary and cardiorespiratory functions of wrestlers recovered from corona disease

Public title
The effect of two types of intense interval training (HIIT) and aerobic continuity on pulmonary and cardiorespiratory functions of wrestlers recovered from corona disease
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
All participants will be wrestlers who have recovered from the corona disease with at least 5 years of sports experience. None of the subjects will have a history of chronic diseases such as cardiovascular diseases, diabetes, various cancers, kidney and digestive disorders, or any type of injury or problem that prevents them from participating in physical activities.
Exclusion criteria:
History of chronic diseases such as cardiovascular diseases, diabetes, various cancers, kidney and digestive disorders, or any type of injury or problem that prevents them from participating in physical activities.
Age
From **25 years** old to **35 years** old
Gender
Male

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **45**
Randomization (investigator's opinion)
Randomized
Randomization description
The subjects of the present study will include 45 recovered cultivars from Corona, which will be randomly divided into three groups. In order to place people in order, the names of each of the subjects will be written on special cards and all the names will be placed in the bag, the choices will be made one after the other. To establish the same chance among all the subjects (chance 1 to 45), after each selection, the card will be put back into the bag.
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
Kermanshah University of Medical Sciences
Street address
Kermanshah - Shahid Beheshti Blvd., Medical Sciences Building No. 2 - Research and Technology Vice-Chancellor
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Province
Kermanshah
Postal code
6714673159
Approval date
2022-08-23, 1401/06/01
Ethics committee reference number
IR.KUMS.REC.1401.250

Health conditions studied

1

Description of health condition studied
COVID-19
ICD-10 code
UO8
ICD-10 code description
Personal history of COVID-19

Primary outcomes

1

Description
Pulmonary function
Timepoint
Befor and after intervention
Method of measurement
1- Spirometry test, 2- Bruce residual test, 3- Borg pressure sensation scale questionnaire

2

Description
Blood pressure
Timepoint
The evaluation will be carried out at 8-10 a.m. with the presence of a nursing expert from Kermanshah health center in the club of the research site. After the practice period, the post-examination stage will be followed by the candidates again before the post-examination stage, according to the points related to the pre-examination stage. In addition, the evaluations of the post-exam stage will take place 48 hours after the last training

session. The evaluations of the post-test phase will be repeated in the same order as the pre-test phase.

Method of measurement

Blood pressure will be recorded and measured using the Brisa device at rest and after exercise

3

Description

Heart beat

Timepoint

The evaluation will be carried out at 8-10 a.m. with the presence of a nursing expert from Kermanshah health center in the club of the research site. After the practice period, the post-examination stage will be followed by the candidates again before the post-examination stage, according to the points related to the pre-examination stage. In addition, the evaluations of the post-exam stage will take place 48 hours after the last training session. The evaluations of the post-test phase will be repeated in the same order as the pre-test phase.

Method of measurement

Heart rate measurement is done using the Polar device

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: High-intensity interval training, each training session will include 5-12 repetitions of running for 30 seconds at full intensity and 4 minutes rest between each repetition.

Category

Rehabilitation

2

Description

Group 2: The main continuous aerobic training program will include running with an intensity of 60% to 75% of the maximum heart rate. It is worth mentioning that before and after the test, the participants will warm up and cool down for 5 minutes respectively. For the purpose of overload principle, two minutes were added to the main training time every week, so that in the first week, they will start training with a duration of 25 minutes and at the end of the eighth week, they will finish their activity with 40 minutes of training.

Category

Rehabilitation

3

Description

Control group: no activity

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Islamic Azad University Islamabad Gharb branch

Full name of responsible person

Tooraj Mohammad Zamani

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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Grant name

Grant code / Reference number

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

Yes

Title of funding source

Islamic Azad University

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
Islamic Azad University

Full name of responsible person
Tooraj Mohammad Zamani

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
Physiology

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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
Yes - There is a plan to make this available

Clinical Study Report
Yes - There is a plan to make this available

Analytic Code
Yes - There is 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
Part of the data, such as information related to the main outcome or similar, can be shared.

When the data will become available and for how long
The access period starts 6 months after the results are published

To whom data/document is available
It will be available only to researchers working in academic and scientific institutions

Under which criteria data/document could be used
Except in the above cases, no other conditions are considered

From where data/document is obtainable
Ali Jalilian1, Tooraj Mohammad Zamani2, Vahid Kazemizadeh3* 1 Department of Physical Education and Sports Sciences, Islamabad Gharb Branch, Islamic Azad University, Islamabad Gharb, Iran. 2 Department of Physical Education and Sports Sciences, Islamabad Gharb Branch, Islamic Azad University, Islamabad Gharb, Iran. 3 Department of Exercise Physiology, Faculty of Sports Sciences, Razi University, Kermanshah, Iran.

What processes are involved for a request to access

data/document

The access period starts 6 months after the results are published

Comments