

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

19 Jun 2026

### Effect of aerobic exercise on cardiorespiratory indexes after discharge in patients improved from Covid-19: a randomized clinical trial

#### Protocol summary

##### Study aim

To assess the effect of aerobic exercise on cardiorespiratory indexes after discharge in patients improved from Covid-19

##### Design

This is a randomized clinical trial, in which 60 eligible patients will be randomly assigned to the intervention and control groups

##### Settings and conduct

The eligible patients with Covid-19 referring to the Besat Hospital in Hamadan city during the study period will be enrolled in the trial and will be randomly assigned to the intervention and control groups through the drawing of lots.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: Age of 18 to 65 years; Discharge after affected with Covid-19; Exclusion criteria: Cardiopulmonary diseases; Any physical disorder

##### Intervention groups

Intervention group: Post discharge care plus aerobic exercise at home (including stretching movements; sit-ups; push-up; roping) 40 minutes daily for 6 weeks  
Control group: Just routine post discharge care

##### Main outcome variables

Primary outcome: Pulse rate; severity of dyspnea; arterial blood oxygen saturation; fatigue rate

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20120215009014N401**  
Registration date: **2021-07-11, 1400/04/20**  
Registration timing: **registered\_while\_recruiting**

Last update: **2021-07-11, 1400/04/20**

Update count: **0**

##### Registration date

2021-07-11, 1400/04/20

##### Registrant information

###### Name

Jalal Poorolajal

###### Name of organization / entity

Department of Epidemiology & Biostatistics Hamadan University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 81 1838 0090

###### Email address

poorolajal@umsha.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-07-06, 1400/04/15

##### Expected recruitment end date

2021-10-07, 1400/07/15

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Effect of aerobic exercise on cardiorespiratory indexes after discharge in patients improved from Covid-19: a randomized clinical trial

##### Public title

Effect of aerobic exercise on cardiorespiratory indexes after discharge in patients improved from Covid-19

##### Purpose

Treatment

##### Inclusion/Exclusion criteria

**Inclusion criteria:**

Age of 18 to 65 years; Discharge after affected with Covid-19;

**Exclusion criteria:**

Cardiopulmonary diseases Any physical disorder

**Age**

From **18 years** old to **65 years** old

**Gender**

Both

**Phase**

3

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **60**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

Random assignment of the patients to the intervention and control groups through the drawing of lots with replacement through simple randomization. To do this, we prepare two sheets and write "intervention" on one sheet and "control" on another. Then, by referring each patient, one of the sheets will be randomly taken and the patient will be assigned to the intervention or control group.

**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**

Ethics Committee of Hamadan University of Medical Sciences

**Street address**

Vice-chancellor for Research and Technology,  
Hamadan University of Medical Sciences, Shahid  
Fahmideh Ave

**City**

Hamadan

**Province**

Hamadan

**Postal code**

6517838695

**Approval date**

2021-06-12, 1400/03/22

**Ethics committee reference number**

IR.UMSHA.REC.1400.243

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

Covid-19

**ICD-10 code**

U07.1

**ICD-10 code description**

Covid-19

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

Pulse rate

**Timepoint**

Before intervention and 6 weeks after that

**Method of measurement**

Using MWT6 device (manufactured by COSMED Co., Italy)

**2****Description**

Severity of dyspnea

**Timepoint**

Before intervention and 6 weeks after that

**Method of measurement**

Using MWT6 device (manufactured by COSMED Co., Italy)

**3****Description**

Arterial blood oxygen saturation

**Timepoint**

Before intervention and 6 weeks after that

**Method of measurement**

Using MWT6 device (manufactured by COSMED Co., Italy)

**4****Description**

Fatigue rate

**Timepoint**

Before intervention and 6 weeks after that

**Method of measurement**

Using Borg index (Borg scale)

**Secondary outcomes**

empty

**Intervention groups****1****Description**

Intervention group: Post discharge care plus aerobic

exercise at home (including stretching movements; sit-ups; push-up; roping) 40 minutes daily for 6 weeks

**Category**

Treatment - Other

**2**

**Description**

Control group: Just routine post discharge care

**Category**

N/A

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

Besat Hospital in Hamadan city

**Full name of responsible person**

Fahimeh Einabadi

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School of Medicine, Hamadan University of Medical Sciences, Shahid Fahmideh Ave.

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**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Hamedan University of Medical Sciences

**Full name of responsible person**

Dr. Saeid Bashirian

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Hamadan University of Medical Sciences, Shahid Fahmideh Ave

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info.research@umsha.ac.ir

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Hamedan 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**

Hamedan University of Medical Sciences

**Full name of responsible person**

Fahimeh Einabadi

**Position**

Student of Physiology of Health

**Latest degree**

Master

**Other areas of specialty/work**

Physiology

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**Person responsible for scientific inquiries**

**Contact**

**Name of organization / entity**

Hamedan University of Medical Sciences

**Full name of responsible person**

Dr. Ebrahim Nadi

**Position**

Internist

**Latest degree**

Medical doctor

**Other areas of specialty/work**

Internal Medicine

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## Person responsible for updating data

### Contact

**Name of organization / entity**  
Hamedan University of Medical Sciences  
**Full name of responsible person**  
Dr. Jalal Poorolajal  
**Position**  
Professor of Epidemiology  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**  
Epidemiology  
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Hamadan  
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Hamadan  
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## 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

Undecided - It is not yet known if there will be 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