Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Evaluation of the effectiveness of pulmonary rehabilitation and exercise therapy in reducing the length of hospital stay of patients with Covid-19

Protocol summary

Study aim

Evaluation of the effect of exercise therapy in reducing the length of hospital stay of patients with Covid-19 disease.

Design

A non-control clinical trial will be performed on 100 patients with Covid 19 which are hospitalized. This study is not randomized and exercise therapy will be performed for all patients.

Settings and conduct

This study will be performed in Shahid Taleghani Hospital. The procedure will be as follows: hospitalized patients will be divided into two groups with arterial oxygen saturation below 90% and above 90%. For the group with arterial oxygen saturation below 90%, exercise therapy, including pulmonary rehabilitation at the patient's bedside, will be performed by a sports medicine specialist. In the group with arterial oxygen saturation above 90%, aerobic exercise therapy will include walking in the ward.

Participants/Inclusion and exclusion criteria

Patients with Covid-19 disease with arterial oxygen saturation below 90% who require hospitalization.

Intervention groups

Intervention 1: Bedside exercise therapy for patients admitted with Covid 19 disease with oxygen saturation below 90% Intervention 2: Aerobic exercise therapy for patients admitted with Covid 19 disease with oxygen saturation above 90%

Main outcome variables

The effect of exercise therapy on reducing the length of hospitalization of patients with Covid 19, the effect of exercise therapy on faster recovery of arterial blood oxygen saturation, the effect of exercise therapy on improving the patient's clinical symptoms including fever, shortness of breath and lethargy

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180226038870N1**
Registration date: **2021-03-05, 1399/12/15**
Registration timing: **prospective**

Last update: **2021-03-05, 1399/12/15**
Update count: **0**

Registration date

2021-03-05, 1399/12/15

Registrant information

Name

Narges Labibzadeh

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 2233 9949

Email address

ddrnlz@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-05-10, 1400/02/20

Expected recruitment end date

2021-09-11, 1400/06/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of the effectiveness of pulmonary rehabilitation and exercise therapy in reducing the length of hospital stay of patients with Covid-19

Public title
Evaluation of the effectiveness of pulmonary rehabilitation and exercise therapy in reducing the length of hospital stay of patients with Covid-19
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Pulmonary involvement seen in pulmonary CT spiral consistent with Covid-19 changes diagnosed by a pulmonologist Positive PCR test for Covid-19 from respiratory or bloody secretions Normal white blood cell counts with decreased lymphocytes Drop in arterial blood oxygen saturation below 90% using finger pulse oximetry
Exclusion criteria:
The patient does not want to participate in the study or attend another trial. Patients who are severely ill and need ventilator ventilation. Patients with musculoskeletal or neurological disorders that prevent the patient from walking normally.
Age
No age limit
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **100**
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
Ethics committee of Shahid Beheshti University of Medical Sciences
Street address
Taleghani Hospital, Danshjoo Blv, Velenjak, Shahid Chamran Highway, Tehran, Iran
City
Tehran
Province
Tehran
Postal code
1985717443
Approval date
2021-02-14, 1399/11/26
Ethics committee reference number
IR.SBMU.MSP.REC.1399.729

Health conditions studied

1

Description of health condition studied
Covid -19
ICD-10 code
J06
ICD-10 code description
Acute upper respiratory infections of multiple and unspecified sites

Primary outcomes

1

Description
Duration of hospitalization
Timepoint
Daily
Method of measurement
Patients' records

2

Description
Fever
Timepoint
Daily
Method of measurement
Oral thermometer

3

Description
Patient walking distance
Timepoint
Daily
Method of measurement
Meter

4

Description
Age
Timepoint
Initial of trial
Method of measurement
Birth certificate

5

Description
Shortness of breath
Timepoint
Daily
Method of measurement
Respiratory rate

6

Description
Arterial blood oxygen saturation
Timepoint
Daily
Method of measurement
Digital pulse oxymetery

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: pulmonary rehabilitation: Daily pulmonary rehabilitation for patients with COVID-19 hospitalized with arterial blood oxygen saturation below 90%, patient will be encouraged to take deep breaths for 30 minutes at heresies. At the same time, the chest muscles will be massaged by a sports medicine specialist. The massage will be done with the palm of the hand, parallel to the ribs and from front to back for 15 minutes. The second movement will be the tapping of the muscles around the chest. This movement will be performed by a sports medicine specialist for 15 minutes while holding the cup in the shape of a hand. This intervention will continue until the patient's arterial blood oxygen saturation reaches above 90%.
Category
Treatment - Other

2

Description
Intervention group: Aerobic exercise for patients with 19 patients admitted to hospital with arterial blood oxygen saturation above 90%. Patients will initially be encouraged to walk in the ward for 6 minutes. After they were able to walk this time, we gradually increase the walking time. The rate of increase will be 5 minutes every 2 days
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Shahid Taleghani Hospital
Full name of responsible person
Mehrshad Poursaeid Esfahani
Street address
Shahid Taleghani hospital, Danshjoo Blv, Velenjak, Shahid Chamran Highway, Tehran, Iran
City
Tehran
Province
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Postal code
1985717443
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+98 21 2243 9948
Email
Ddrnlz@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Afshin Zarghi
Street address
Shahid Beheshti university of medical sciences, Danshjoo Blv, Velenjak, Shahid Chamran Highway, Tehran, Iran
City
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Postal code
1985717443
Phone
+98 21 2243 9948
Email
zarghi@sbmu.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shahid Beheshti 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
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Narges Labibzadeh
Position
Resident
Latest degree
Medical doctor
Other areas of specialty/work
Sport Medicine
Street address
Shahid Taleghani hospital, Danshjoo Blv, Velenjak, Shahid Chamran Highway, Tehran, Iran
City
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Person responsible for scientific inquiries

Contact
Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Narges Labibzadeh
Position
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Latest degree
Medical doctor
Other areas of specialty/work
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Person responsible for updating data

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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
Yes - There is a plan to make this available
Title and more details about the data/document
All data is potentially shareable after unidentified individuals
When the data will become available and for how long
Access starts 6 months after the results are published
To whom data/document is available
People working in academic and scientific institutions
Under which criteria data/document could be used
The data can be used only with the permission of the author responsible for the study and only for scientific purposes such as sharing in scientific situations. In order to send a request for access to data or documents, it is necessary for the requesting person to send an e.mail to the responsible author and state the purpose of the request for access to data.
From where data/document is obtainable
To receive data and documents related to the project, it is necessary to send an e.mail to the responsible author. Named: Mehrshad Poursaeed Esfahani e.mail: mpoorsaid@yahoo.com Address: Shahid Chamran Highway, Yemen St., Daneshjoo Blvd., Shahid Taleghani Hospital And contact number: 982122439948
What processes are involved for a request to access data/document
After sending the e.mail to the responsible author, within 1-2 weeks, the responsible author will send the appropriate answer to the requesting person.
Comments