Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effects of comprehensive muscle endurance training with and without Fitness training program on muscle strength, endurance and Quality of life in post COVID-19 patients

Protocol summary

Study aim

To study the effects of fitness training program and comprehensive muscle endurance training along with fitness training program on muscle strength, endurance and quality of life in post COVID-19 patients

Design

Patients will be recruited in the study through a convenient sampling technique and then will be randomly assigned to each group according to consort guideline 2010. Participants are 40 persons. Written informed consent will be taken. After enrollment into the study, patients will be allocated either to group A or Group B by lottery method. No. of Chits will be equal to the total sample size, odd Numbers will be allocated to Group A and even numbers will be allocated to Group B. No blinding.

Settings and conduct

The study will be conducted at Fatima Memorial Hospital, LHR.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Aged18 to 40 years; both genders; Post Covid-19 patients; Hemodynamically stable; Non-diabetic patients; Non- Hospitalized Patients. Exclusion criteria: Neuromuscular disease; Unstable cardiovascular disease; Musculoskeletal disease; Pregnancy; Rib Fracture; Risk of Pneumothorax; Pneumonectomy; Red Flags Like: Fever, Night Sweats, Malaise; Pulmonary embolism; Lung cancer.

Intervention groups

Group B: will be treated with supervised combined strength-endurance training (CT). Exercises consisted of 30 minutes of cycling, treadmill walking, or using an upper limb ergometer. Group A: will be treated according to physical activity education program approach (EDU), based on a periodically supervised protocol of different exercise. The EDU program was scheduled as follows: Each supervised training session lasted 60 min and included 3 alternating types of physical activity: aerobics classes with flexibility and balance training.

Main outcome variables

Strength, endurance, and quality of life in post covid patients

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191117045462N7**
Registration date: **2022-04-28, 1401/02/08**
Registration timing: **registered_while_recruiting**

Last update: **2022-04-28, 1401/02/08**
Update count: **0**

Registration date

2022-04-28, 1401/02/08

Registrant information

Name
Wajeeha Zia
Name of organization / entity
Riphah International University
Country
Pakistan
Phone
+92 42 35126110
Email address
wajeeha_z@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-04-01, 1401/01/12

Expected recruitment end date

2022-07-01, 1401/04/10

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effects of comprehensive muscle endurance training with and without Fitness training program on muscle strength, endurance and Quality of life in post COVID-19 patients

Public title
Effects of comprehensive muscle endurance training with and without Fitness training program on muscle strength, endurance and Quality of life in post COVID-19 patients

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Aged18 to 40 years Both genders Post Covid-19 patients Hemodynamically stable Non-diabetic patients Non-Hospitalized Patients

Exclusion criteria:
Neuromuscular disease Unstable cardiovascular disease Musculoskeletal disease Pregnancy Rib Fracture Risk of Pneumothorax Pneumonectomy Red Flags Like: Fever, Night Sweats, Malaise Pulmonary embolism Lung cancer

Age
From **18 years** old to **40 years** old

Gender
Both

Phase
4

Groups that have been masked
No information

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description
After enrollment into the study, patients will be allocated either to group A or Group B by lottery method. No. of Chits will be equal to total sample size, odd Numbers will be allocated to Group A and even numbers will be allocated to Group B. Each patients will be requested to draw a chit from the box and after that patient will be recruited into either group A or group B.

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
no

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethical committee of the Riphah international university Lahore, Pakistan

Street address
Shadman

City
Lahore

Postal code
54000

Approval date
2021-10-27, 1400/08/05

Ethics committee reference number
567888

Health conditions studied

1

Description of health condition studied
Post COVID

ICD-10 code
U07.1

ICD-10 code description
COVID-19, virus identified

Primary outcomes

1

Description
Flexibility

Timepoint
4 weeks

Method of measurement
Sit and reach test, one leg stance test

2

Description
strength

Timepoint
4 weeks

Method of measurement
Chest press and leg extension assessed separately for upper body and bilateral lower limb strength.

Secondary outcomes

1

Description
Quality of life

Timepoint
4 weeks

Method of measurement
Health related quality of life (HRQoL) for quality of life

Intervention groups

1

Description
Intervention group: Group A will be treated according to physical activity education program approach (EDU), based on a periodically supervised protocol of different exercise. The EDU program was scheduled as follows: Each supervised training session lasted 60 min and included 3 alternating types of physical activity: aerobics classes with flexibility and balance exercises, walking, or weight-free exercises in circuit training for 6 weeks. First week supervised and then patient will perform for 3 days/week for 6 weeks

Category
Treatment - Other

2

Description
intervention group: Group B will be treated supervised combined strength-endurance training (CT). Exercises consisted of 30 minutes of cycling, treadmill walking or using an upper limb ergometer at intensity from 3 to 4 out of 0–10 on the CR-10 modified Borg scale for 3 days/week for 6 week

Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Fatima Memorial Hospital, Lahore.
Full name of responsible person
Maryum Khan
Street address
Shadman
City
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54000
Phone
+92 308 4058718
Email
marykhan2.mk@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Riphah International University
Full name of responsible person
Wajeeha
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54000
Phone
+92 308 4058718
Email
wajeeha_z@yahoo.com
Grant name
Educational
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Riphah International University
Proportion provided by this source
10
Public or private sector
Private
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
Riphah International University
Full name of responsible person
Wajeeha
Position
physiotherapist
Latest degree
Bachelor
Other areas of specialty/work
physiotherapy
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Person responsible for scientific inquiries

Contact
Name of organization / entity
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Wajeeha Zia
Position

Assistant Professor
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Rehabilitation and research
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+92 42 37427465
Email
wajeeha_z@yahoo.com

Person responsible for updating data

Contact
Name of organization / entity
Riphah International University
Full name of responsible person
wajeeha Zia
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Rehabilitation and research
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available
Justification/reason for indecision/not sharing IPD
There is no further information
Study Protocol
No - There is not 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