

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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: Aged 18 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:

Aged 18 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
Lahore
Postal code
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
Street address
Shadman
City

Lahore

Postal code

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
Street address
Shadman
City
Lahore
Province
Punjab
Postal code
54000
Phone
+92 308 4058718
Email
wajeeha_z@yahoo.com

Person responsible for scientific inquiries

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

Street address

Shadman

City

Lahore

Province

Punjab

Postal code

54000

Phone

+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

Street address

Shadman

City

Lahore

Province

Punjab

Postal code

54000

Phone

+92 42 37427465

Email

wajeeha_z@yahoo.com

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