

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparison of rib cage mobilization and diaphragmatic breathing on lung function in patients with COPD

#### Protocol summary

##### Study aim

To compare the effects of rib cage mobilization and diaphragmatic breathing on lung function in patients with COPD.

##### Design

Randomize clinical trial, not blind trial, 2 group.

##### Settings and conduct

Idrees teaching hospital Sialkot Cantt, Allama Iqbal memorial hospital Sialkot, Chest and gynae hospital Sialkot. The study was conducted within 6 months after the approval of synopsis.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: •Age 40 to 70 years, at least history of chronic obstructive pulmonary disease from 1 year  
•Altered dyspnea index •Decrease FEV1/FVC •chronic obstructive pulmonary disease Grade II and III  
Exclusion criteria: •Acute exacerbation of chronic obstructive pulmonary disease •Grade IV chronic obstructive pulmonary disease patients. •Patients with comorbidities  
•Patient in any life-threatening condition.

##### Intervention groups

Group A: Rib cage mobilization, postural drainage, breathing exercises(expiratory) Group B: diaphragmatic breathing, postural drainage, breathing exercises(expiratory) Pre interventional readings will be taken at baseline & post interventional readings at 6 weeks

##### Main outcome variables

level of dyspnea(Dyspnea index) and FEV1/FVC ratio (Spirometer)

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20210108049966N2**

Registration date: **2022-07-27, 1401/05/05**

Registration timing: **retrospective**

Last update: **2022-07-27, 1401/05/05**

Update count: **0**

##### Registration date

2022-07-27, 1401/05/05

##### Registrant information

###### Name

Shanza Tanveer

###### Name of organization / entity

Riphah International University

###### Country

Pakistan

###### Phone

+92 48 3215215

###### Email address

cheematanvir666@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2022-03-20, 1400/12/29

##### Expected recruitment end date

2022-04-25, 1401/02/05

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Comparison of rib cage mobilization and diaphragmatic breathing on lung function in patients with COPD

##### Public title

Comparison of rib cage mobilization and diaphragmatic breathing on lung function in patients with COPD

##### Purpose

Treatment

##### Inclusion/Exclusion criteria

**Inclusion criteria:**

Age 40 to 70 years, at least history of chronic obstructive pulmonary disease from 1 year Altered dyspnea index  
Decrease FEV1/FVC

**Exclusion criteria:**

Acute exacerbation of chronic obstructive pulmonary disease Patient in any life-threatening condition. Patients with comorbidities Grade IV COPD patients.

**Age**

From **40 years** old to **70 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **22**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

Randomization was done through sealed envelope method on sample size of 22 individuals selected on inclusion & exclusion criteria in order to minimize biasness. Written informed consent will be taken. Lottery method will be used for allocation. Number of chits will be equal to total sample size, odd numbers for Group A allocation and even numbers for group B allocation. Each patient will be requested to draw a chit from the box.

**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**

Riphah International University

**Street address**

28- M Quaid e Azam Industrial Estate, Kot Lakhpat,  
Lahore.

**City**

lahore

**Postal code**

54000

**Approval date**

2022-05-01, 1401/02/11

**Ethics committee reference number**

RCR/RCR & AHS/20/021

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

Chronic obstructive pulmonary disease, or COPD, refers to a group of diseases that cause airflow blockage and breathing-related problems. Shortness of breath known medically as dyspnea is often described as an intense tightening in the chest, air hunger, difficulty breathing, breathlessness or a feeling of suffocation. The FEV1/FVC ratio is the amount of air exhaled in the first second divided by all of the air exhaled during a maximal exhalation.

**ICD-10 code**

J44.9

**ICD-10 code description**

Chronic obstructive pulmonary disease, unspecified

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

level of dyspnea

**Timepoint**

Before treatment and after treatment (3rd week).

**Method of measurement**

dyspnea index

**2****Description**

FEV1/FVC ratio

**Timepoint**

Before treatment and after treatment (3rd week).

**Method of measurement**

spirometer

**Secondary outcomes**

empty

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

Intervention group: group-A= Rib cage mobilization was applied in group A for 3 weeks at 5 days per week in three different positions, in sitting, side lying for ribs 10th to 2nd, and supine lying for 1st rib.

**Category**

Treatment - Other

**2****Description**

Intervention group: group-B= The deep breathing exercises were applied in group B for 3 weeks at 5 days per week in sitting position.

**Category**

## Recruitment centers

### 1

#### Recruitment center

**Name of recruitment center**

Idrees teaching hospital Sialkot Cantt, Allama Iqbal memorial hospital Sialkot, Chest and gynae hosp

**Full name of responsible person**

Husna Haider

**Street address**

House no.1 block A muhafiz town, Sargodha

**City**

Sargodha

**Postal code**

40100

**Phone**

+92 304 7924564

**Email**

cheematanvir666@gmail.com

## Sponsors / Funding sources

### 1

#### Sponsor

**Name of organization / entity**

Riphah International University Lahore, Pakistan

**Full name of responsible person**

Husna Haider

**Street address**

House no.1 block A muhafiz town, Sargodha.

**City**

Sargodha

**Postal code**

40100

**Phone**

+92 48 3215215

**Email**

cheematanvir666@gmail.com

**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Riphah International University Lahore, Pakistan

**Proportion provided by this source**

100

**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**

Other

## Person responsible for general inquiries

#### Contact

**Name of organization / entity**

Riphah International University Lahore, Pakistan

**Full name of responsible person**

Husna Haider

**Position**

Student

**Latest degree**

Bachelor

**Other areas of specialty/work**

Physiotherapy

**Street address**

House no.1 block A muhafiz town, Sargodha.

**City**

Sargodha

**Province**

Punjab

**Postal code**

40100

**Phone**

+92 48 3215215

**Email**

cheematanvir666@gmail.com

## Person responsible for scientific inquiries

#### Contact

**Name of organization / entity**

Riphah College of Rehabilitation Sciences (RCRS)

**Full name of responsible person**

Husna Haider

**Position**

student

**Latest degree**

Bachelor

**Other areas of specialty/work**

Physiotherapy

**Street address**

House no.1 block A muhafiz town, Sargodha.

**City**

sargodha

**Province**

punjab

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40100

**Phone**

+92 48 3215215

**Email**

cheematanvir666@gmail.com

## Person responsible for updating data

#### Contact

**Name of organization / entity**

Riphah College of Rehabilitation Sciences (RCRS)

**Full name of responsible person**

Husna Haider

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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 decision & information is decided yet.

**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