# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

08 Nov 2026

## Correlation of forced expiratory technique, chest physiotherapy, pursed lips breathing exercises on cardiorespiratory and renal parameters fitness in acute pneumonia patients in Multan

## Protocol summary

**Study aim**
Aim of this study is to explore the correlates (B.P, pulse rate, oxygen saturation, glucose level, lipid profile, temperature, respiration rate) of young adults with acute pneumonia of Multan that are associated with body mass index and cardiorespiratory and renal parameters health.

**Design**
randomization single group desgin triple blinding study

**Settings and conduct**
Ch. Pervaiz Elahi Institute of Cardiology Multan.

**Participants/Inclusion and exclusion criteria**
Including criteria • Young adults • Age group of 18-30 • Acute pneumonia patient • Acute pneumonia patients from Multan • Good mental health Excluding criteria • Any type of physical disability • Acute pneumonia patients with active infection • Any type of mental disorder • Any type of major surgery • Older adults • Childs • Smear positive respiratory sample

**Intervention groups**
We take three groups. Group A Group B Group C In Group A we take 18 participants .They perform forced expiratory technique exercises. In Group B we take 17 participants .They perform chest phyiotherapy exercises. In Group C we take 18 participants.They perform pursed lips breathing exercises.

**Main outcome variables**
This study will investigate the correlation of cardiorespiratory fitness and renal parameters with body mass index and in young adults with acute pneumonia of Multan and also investigate the respiratory improvements. We will expect the positive and negative correlation.

## General information

**Reason for update**

**Acronym**
Cross sectional study

**IRCT registration information**
IRCT registration number: **IRCT20230718058826N2**
Registration date: **2023-08-28, 1402/06/06**
Registration timing: **prospective**

Last update: **2023-08-28, 1402/06/06**
Update count: **0**

**Registration date**
2023-08-28, 1402/06/06

**Registrant information**

**Name**
Perwasha Perwasha

**Name of organization / entity**
Muhammad Institute of Medical and Allied Sciences, Multan, Pakistan.

**Country**
Pakistan

**Phone**
+92 310 6562039

**Email address**
perwashanaseer123@gmail.com

**Recruitment status**
**Recruitment complete**

**Funding source**

**Expected recruitment start date**
2023-09-01, 1402/06/10

**Expected recruitment end date**
2023-10-01, 1402/07/09

**Actual recruitment start date**
2023-09-01, 1402/06/10

**Actual recruitment end date**
2023-10-01, 1402/07/09

**Trial completion date**
2023-10-01, 1402/07/09

**Scientific title**
Correlation of forced expiratory technique, chest physiotherapy, pursed lips breathing exercises on cardiorespiratory and renal parameters fitness in acute pneumonia patients in Multan

**Public title**
Correlation of forced expiratory technique, chest physiotherapy, pursed lips breathing exercises on cardiorespiratory and renal parameters fitness in acute pneumonia patients in Multan

**Purpose**
Health service research

**Inclusion/Exclusion criteria**

**Inclusion criteria:**
• Young adults• Age group of 18-30• Acute pneumonia patient • Acute pneumonia patients from Multan • Good mental health

**Exclusion criteria:**
• Any type of physical disability• Acute pneumonia patients with active infection• Any type of mental disorder• Any type of major surgery• Older adults• Childs• Smear positive respiratory sample

**Age**
From **18 years** old to **35 years** old

**Gender**
Both

**Phase**
1

**Groups that have been masked**

- Participant
- Investigator
- Data analyser

**Sample size**
Target sample size: **53**
Actual sample size reached: **53**

**Randomization (investigator's opinion)**
Randomized

**Randomization description**
We take three group • Group I with forced expiratory technique(1.Take 3—5 slow deep breaths, inhaling through the nose, exhaling through pursed lips, using diaphragmatic breathing. 2. Take a deep breath and hold it for 1—3 seconds. 3. Exhale from mid-to-low lung volume (to clear secretions from peripheral airways). 4. Take a normal breath in and then squeeze it out by contracting the abdominal and chest wall muscles, with the mouth and glottis open, while whispering the word “huff” (sounds like a forced sigh) during exhalation. Repeat several times. 5. As secretions enter the larger airways, exhale from high-to-mid lung volume to clear secretions from more proximal airways. Repeat maneuver 2—3 times. 6. Take several relaxed diaphragmatic breaths before the next cough effort.) • Group II with chest physiotherapy(CPT should be done 1-4 times a day, preferably half an hour before meals or one and half hour after meals. The total duration should not exceed 30 minutes with 3-6 minutes in each position.) • Group III with Pursed lips breathing exercise( Pursed lip breathing was to be done as a home exercise daily for 5 min thrice a day over a period of 6 weeks.)

**Blinding (investigator's opinion)**
Triple blinded

**Blinding description**
Triple Blinding.. In triple blinding participant do not know in which group they are evaluated. In triple blinding investigator are randomly evaluated. In triple blinding data analyser analyse the data.

**Placebo**
Not used

**Assignment**
Single

**Other design features**
Randomized single group desgin triple blinding study

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**

**Name of ethics committee**
Muhammad Institute of Medical and Allied Sciences Multan.

**Street address**
HBL street near sabazazar station bosan road Multan.

**City**
Multan

**Postal code**
66000

**Approval date**
2023-10-01, 1402/07/09

**Ethics committee reference number**
MIMAS /Ref/IRB/24/17

## Health conditions studied

### 1

**Description of health condition studied**
Pneumonia

**ICD-10 code**
(J00-J99)

**ICD-10 code description**
Diseases of the respiratory system

## Primary outcomes

### 1

**Description**
Improve cardiorespiratory and renal parameters.

**Timepoint**
4 days/week for 4 weeks

**Method of measurement**
• Pulse oximeter (choiceMMed), Digital Thermometer (certeza), Sphygmomanometer BP apparatus (Medisign Aneroid Sphygmomanometer MODEL: MC 2002), Glucose strips (on call plus), spirometer (besmed incentive), Cholesterol devise (beneCheck Multi-Monitoring Meter).

Urine output measurements.• Urine tests• Blood tests• Imaging tests• Removing a sample of kidney tissue for testing.

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**
Intervention group: 1 Forced expiratory technique, Intervention group 2 Chest physiotherapy exercises and intervention group 3 Pursed lips breathing.
**Category**
Rehabilitation

## Recruitment centers

**1**

**Recruitment center**
**Name of recruitment center**
Ch. Pervaiz Elahi Institute of Cardiology Multan.
**Full name of responsible person**
Dr.Perwasha
**Street address**
HBL street near sabazazar station bosan road Multan.
**City**
Multan
**Postal code**
66000
**Phone**
+92 310 6562039
**Email**
perwashanaseer123@gmail.com

## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
mimas
**Full name of responsible person**
imran durrani
**Street address**
HBL street near sabazazar station bosan road Multan.
**City**
Multan
**Postal code**
66000
**Phone**
+92 333 6120602
**Email**
imranahmadkhandurrani@gmail.com
**Grant name**
research grant
**Grant code / Reference number**
765478
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
mimas
**Proportion provided by this source**
80
**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**
mimas
**Full name of responsible person**
Imran Ahmad Khan
**Position**
Assistant professor
**Latest degree**
Ph.D.
**Other areas of specialty/work**
Cardiology
**Street address**
HBL street near sabazazar station bosan road Multan.
**City**
Multan
**Province**
punjab
**Postal code**
66000
**Phone**
+92 61 6221111
**Email**
imranahmadkhandurrani@gmail.com

## Person responsible for scientific inquiries

**Contact**
**Name of organization / entity**
mimas
**Full name of responsible person**
Perwasha
**Position**
med. doctor
**Latest degree**
Medical doctor
**Other areas of specialty/work**
Physiotherapy
**Street address**
HBL street near sabazazar station bosan road Multan.
**City**
Multan
**Province**

punjab

**Postal code**

66000

**Phone**

+92 61 6231111

**Email**

perwashanaseer123@gmail.com

## Person responsible for updating data

**Contact**

**Name of organization / entity**

mimas

**Full name of responsible person**

perwasha

**Position**

med.doc

**Latest degree**

Medical doctor

**Other areas of specialty/work**

Physiotherapy

**Street address**

HBL street near sabazazar station bosan road Multan.

**City**

Multan

**Province**

punjab

**Postal code**

66000

**Phone**

+92 61 6221111

**Email**

perwashanaseer123@gmail.com

## 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**

Correlation of forced expiratory technique, chest physiotherapy, pursed lips breathing exercises on cardiorespiratory and renal parameters fitness in acute pneumonia patients in Multan

**When the data will become available and for how long**

after 4 weeks

**To whom data/document is available**

supervisor

**Under which criteria data/document could be used**

ethical consideration

**From where data/document is obtainable**

supervisor

**What processes are involved for a request to access data/document**

documentation

**Comments**

kindly consider for further evaluation