

# Is pulmonary rehabilitation possible for patients with chronic obstructive pulmonary disease in a low resource setting in Jaffna, Sri Lanka?

<b>Submission date</b> 05/03/2021	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 16/04/2021	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 06/05/2025	<b>Condition category</b> Respiratory	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Chronic obstructive pulmonary disease (COPD) is the name for a group of lung conditions that cause breathing difficulties.

The burden of Chronic Obstructive Pulmonary Disease (COPD) has been increasing worldwide over the last few decades. It is a major cause of illness and death. According to the World Health Organization, 5% of global deaths in 2015 were due to COPD.

COPD increases the risk for other diseases and has effects like weight loss, nutritional abnormalities and muscle problems. In addition, decreased exercise performance, low physical activity and, impaired quality of life are adverse effects.

International guidelines for the management of COPD strongly recommend Pulmonary Rehabilitation (PR), which involves exercise and education at its core. At the moment there are no formal PR services in Sri Lanka, as with many low resources settings with limited facilities or expertise to conduct PR. Hence, this study aimed to implement a PR program in a low resource setting and to find out if it is feasible to deliver a trial of PR for people living with COPD in Jaffna, Sri Lanka.

### Who can participate?

Adult patients with COPD.

### What does the study involve?

Participants either had treatment as usual or a six-week programme, with sessions occurring twice weekly with approximately one hour for education and one hour for exercise.

### What are the possible benefits and risks of participating?

None

### Where is the study run from?

University of Jaffna (Sri Lanka)

When is the study starting and how long is it expected to run for?  
June 2019 to March 2020

Who is funding the study?

1. University of Jaffna (Sri Lanka)
2. The National Institute for Health Research (UK).

Who is the main contact?

Dr Mathanki Sooriyakanthan, smathanki@univ.jfn.ac.lk

## Contact information

### Type(s)

Public

### Contact name

Dr Mathanki Sooriyakanthan

### ORCID ID

<http://orcid.org/0000-0002-1970-9517>

### Contact details

Department of Physiology  
Faculty of Medicine  
University of Jaffna  
Jaffna  
Sri Lanka

-

+94 (0)2122222073  
smathanki@univ.jfn.ac.lk

### Type(s)

Scientific

### Contact name

Dr Mathanki Sooruyakanthan

### ORCID ID

<http://orcid.org/0000-0002-1970-9517>

### Contact details

Department of Physiology  
Faculty of Medicine  
University of Jaffna  
Jaffna  
Sri Lanka

-

+94 (0)2122222073  
smathanki@univ.jfn.ac.lk

# Additional identifiers

## EudraCT/CTIS number

Nil known

## IRAS number

## ClinicalTrials.gov number

Nil known

## Secondary identifying numbers

Nil known

# Study information

## Scientific Title

Feasibility trial of pulmonary rehabilitation on patients with Chronic Obstructive Pulmonary Disease in a low resource setting in Jaffna, Sri Lanka

## Study objectives

It will be feasible to conduct a trial of pulmonary rehabilitation in a low resource setting for people living with COPD.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Approved 23/05/2019, Faculty of Medical Sciences REC (University of Sri Jayewardenepura, Sri Lanka; +94-11-2758588; [erc.fms.usjp@gmail.com](mailto:erc.fms.usjp@gmail.com)), ref: 35/18

## Study design

Interventional non-randomized

## Primary study design

Interventional

## Secondary study design

Non randomised study

## Study setting(s)

Community

## Study type(s)

Treatment

## Participant information sheet

Not available in web format, please use contact details to request a participant information sheet

## Health condition(s) or problem(s) studied

## Chronic obstructive pulmonary disease

### Interventions

The intervention (Pulmonary Rehabilitation) consisted of a six-week programme, with sessions occurring twice weekly with approximately one hour for education and one hour for exercise. Pulmonary Rehabilitation was provided by the trained investigator and assisted by other staff at the department. The education component was focused on exercise, diet, disease education, medication, managing breathlessness, chest clearance, relaxation, energy conservation and avoidance of exacerbations.

Pulmonary Rehabilitation was provided in groups of up to 6 COPD patients. The exercise program consisted of stretching, aerobic and strength training exercises, using minimal equipment, individually adjusted over the course of six weeks. The aerobic exercise was 30 minutes of continuous walking. Strength training exercises consisted of bicep curls, pull ups, sitting to standing and step ups. Each of these strength training exercises were performed with hand weights.

The participants in the control arm received usual pharmacotherapy alone.

### Intervention Type

Behavioural

### Primary outcome measure

Feasibility measures including:

1. Suitability of inclusion criteria measured using the reasons for not being eligible, reasons for declining, reasons for not completing the exercise program by 9 months
2. Refusal rate measured using number of eligible patients identified and number of patients consented to participate in the study by 9 months
3. Uptake and completion of the study measured number of patients enrolled into the study and number of patients completed 6 weeks program during 9 months
4. Compliance to PR sessions measured using number of patients enrolled in PR sessions and number completed 6 weeks program including post assessment during 9 months
5. Adherence to home exercise assessed via a self-report exercise diary assessed via a self-report exercise diary for 6 weeks

### Secondary outcome measures

Measured at baseline and at 6 weeks post baseline:

1. Anxiety and depression level, measured using Hospital Anxiety and Depression Scale (HADS)
2. Breathlessness, measured using Medical Research Council (MRC) Dyspnea scale
3. Health status, measured using COPD Assessment Test (CAT) and Clinical COPD Questionnaire (CCQ)
4. Lung health, assessed by spirometry
5. Exercise capacity, measured by Incremental Shuttle Walk Test (ISWT) and Six Minute Walk Test (6MWT)

### Overall study start date

10/06/2019

### Completion date

13/03/2020

## Eligibility

**Key inclusion criteria**

Physician diagnosis of COPD based on symptoms and spirometry confirmed based on GOLD criteria, with FEV1/FVC <0.7, and FEV1<80% predicted.

**Participant type(s)**

Patient

**Age group**

Adult

**Sex**

Both

**Target number of participants**

50-60

**Total final enrolment**

54

**Key exclusion criteria**

1. Unable or unwilling to provide informed consent
2. Comorbidities such as severe or unstable cardiovascular disease or other lung diseases
3. Stroke, Peripheral neuropathies or any other internal diseases and locomotor difficulties that limit the exercise performance
4. Significant hearing impairment

**Date of first enrolment**

15/06/2019

**Date of final enrolment**

10/03/2020

**Locations****Countries of recruitment**

Sri Lanka

**Study participating centre**

Department of Physiology

Faculty of Medicine

University of Jaffna

Jaffna

Sri Lanka

-

**Sponsor information**

**Organisation**

University of Jaffna

**Sponsor details**

Faculty of Medicine

Adiyapatham Road

Kokuvil

Jaffna

Sri Lanka

-

+94 (0)212222073

deanmedicine@univ.jfn.ac.lk

**Sponsor type**

Government

**Website**

<http://www.jfn.ac.lk/>

**ROR**

<https://ror.org/02fwjgw17>

**Funder(s)****Funder type**

University/education

**Funder Name**

University of Jaffna

**Alternative Name(s)**

UoJ

**Funding Body Type**

Government organisation

**Funding Body Subtype**

Local government

**Location**

Sri Lanka

**Funder Name**

National Institute for Health Research

**Alternative Name(s)**

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

**Funding Body Type**

Government organisation

**Funding Body Subtype**

National government

**Location**

United Kingdom

## Results and Publications

**Publication and dissemination plan**

The researchers will publish the results from this study in international journals and presented locally, nationally and internationally at appropriate meetings and conferences. All data that will be collected is anticipated to be published.

**Intention to publish date**

30/04/2022

**Individual participant data (IPD) sharing plan**

The current data sharing plans for this study are unknown and will be available at a later date

**IPD sharing plan summary**

Data sharing statement to be made available at a later date

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>		08/08/2022	09/08/2022	Yes	No
<a href="#">Results article</a>		28/02/2025	06/05/2025	Yes	No