

# Is it possible for people living with chronic obstructive lung disease in India to use a digital smartphone app to help them manage their illness?

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<b>Registration date</b> 20/02/2020	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 04/03/2024	<b>Condition category</b> Respiratory	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

The prevalence of chronic obstructive pulmonary disease (COPD) in India is high. Efforts are needed to further develop methods to help adults living with COPD manage their health condition. The overall aim of this project is to assess the feasibility of a digital smart-phone based lifestyle app by adults living with COPD in India.

### Who can participate?

Adults living with COPD and caregivers to adults living with COPD.

### What does the study involve?

The study involves the collection of participant's views regards the use of technology in managing COPD. The study also tests a digital smart-phone lifestyle application in adults living with COPD.

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

The benefits of participation are to contribute to informing the development of a smart-phone lifestyle application for adults living with COPD in India. There are no risks to participation.

### Where is the study run from?

Symbiosis International (Deemed University) (India)

### When is the study starting and how long is it expected to run for?

April 2018 to March 2023

### Who is funding the study?

National Institute for Health Research (UK)

Who is the main contact?  
Dr Mark Orme, mwo4@leicester.ac.uk

## Contact information

### Type(s)

Public

### Contact name

Dr Mark Orme

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## Additional identifiers

### Protocol serial number

Version 1

## Study information

### Scientific Title

A digital smartphone self-management app for people living with COPD in India: a feasibility study (Global RECHARGE India)

### Acronym

Global RECHARGE India (digital app)

### Study objectives

To assess the feasibility of a digital self-management app intervention for people living with COPD in India using information collected through the app and Focus Group Discussions (FGDs) both pre- and post-intervention.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Approved 22/11/2019, University Ethics Sub-Committee for Medicine and Biological Sciences (University of Leicester, University Road, Leicester, LE1 7RH; ethics@le.ac.uk), ref: 22522-avj1-s: respiratorysciences,deptof

## **Study design**

Single-arm feasibility study

## **Primary study design**

Interventional

## **Study type(s)**

Treatment

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

Adults with chronic obstructive pulmonary disease (COPD) or their caregivers.

## **Interventions**

This trial will consist of a mixed-methods approach and recruitment for each stage will be separate. Suitable participants will be identified. Once a participant has provided informed voluntary written consent, they will be enrolled into the trial. The trial consists of two stages:

1. Focus Group Discussions (FGDs) will be conducted (with approximately 3-10 participants). The purpose of these FGDs is to gain an understanding of patients' views on the use of smartphone technology in the management of chronic health conditions and more specifically COPD. These FGDs will also seek to examine patients' views on the need for such an app for COPD patients living in India, along with their views on the preferred level of support and their preliminary feedback on the basic interface of the digital app.
2. A feasibility trial assessing a self-management app for patients living with COPD. The content of the digital app will be based on the principles of the SPACE for COPD manual (an evidence-based self-management manual for adults with COPD) with the addition of yoga exercises. Patients will be allowed to work through the App content at their own pace, however, certain milestones need to be completed or achieved before further content can be accessed in order to ensure appropriate progress through the program. The app will allow users to set goals, monitor their progress towards those goals, and provides feedback to users. The study team will explain the utility of the app initially, after which the app can be used independently by the individual with COPD for 8 weeks from the day they were provided with the app. Patient adherence will also be discussed in post-intervention FGDs with patients and their caregivers upon the completion of the app trial. Each FGD will be comprised of 3-10 patients and will be conducted face-to-face using a single moderator and a secondary note-taker (observer) using a checklist. The purpose of the post-intervention FGDs is to obtain constructive feedback about patients' experiences of using the app. This will include discussion of how patients utilized the app, the app's usefulness as an intervention, the level of acceptance of the app as a self-management tool for COPD, and patients' opinions on the scalability of the intervention. Qualitative data will also be collected to understand the views of caregivers for adults living with COPD, specifically regarding technology-based health solutions in COPD.

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

Feasibility of a digital self-management app intervention for people living with COPD in India. Measured by collecting data captured through the app and pre- and post-intervention FGDs

between baseline and 8 weeks. The measurements to determine feasibility will be:

1. Number of participants identified, approached, consented, randomised and completed
2. Performance of participants – completion rate, perceived usefulness, burden etc.
3. Record of patient login, accessibility and adherence
4. App analytics including app usage -frequency, no. of views to read knowledge information, exercise information, video seen, incomplete use and drop-outs etc.
5. Insights on need, demand, usefulness of digital technology/app in COPD healthcare
6. Insights on their user-friendliness with smart phones, perceptions about using app for chronic health
7. COPD Assessment Test (CAT) will be important to identify severity of symptoms
8. Borg scale
9. MRC dyspnoea scale to indicate the extent to which breathlessness affects their mobility
10. Monitoring of physical exercises through app
11. COPD grading and clinical history and medical examinations, conditions, practicality of delivering the intervention in the proposed setting
12. Serious adverse events

### **Key secondary outcome(s)**

1. To assess the demand for a digital self-management App for people in India living with COPD This will be achieved by conducting pre- and post-intervention FGDs to assess patient insights on the need, demand, and usefulness of a digital self-management app for COPD patients. Further insights will also be sought from patients about the use of digital smartphone apps in the management of chronic health conditions, along with the practicality of delivering the intervention in the proposed setting. Measured at baseline and 8 weeks.
2. Determine the adaptability of the 'SPACE for COPD' content and Yoga to ensure it is culturally appropriate for a global audience and specifically for India through literature review and pre-intervention FGDs with patients at baseline. This will be achieved through Communications and correspondences with the research team and the app developers in order to develop well-defined and verified content for the app.
3. Acceptability of the app for people living with COPD in India assessed through post-intervention FGDs with patients and/or their caregivers at 8 weeks
4. Patient compliance/adherence to the exercise sessions will be analyzed via data collected from the app at 8 weeks.

### **Completion date**

01/03/2023

## **Eligibility**

### **Key inclusion criteria**

1. Patients:

- a.  $\geq 18$  years
  - b. Stable COPD, confirmed on spirometry, as having a forced expiratory volume in 1 s (FEV1) post-bronchodilation of  $< 80\%$  and a predicted ratio of FEV1 to forced vital capacity of 0.70
  - c. Patients with MRC dyspnoea score  $\geq 2$
  - d. Able to read Marathi or Hindi
  - e. Signed informed consent
2. Caregivers providing care and support to adults living with COPD.

### **Participant type(s)**

Mixed

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Sex**

All

**Key exclusion criteria**

1. Co-morbidities or significant cardiovascular, hepatic, renal, neurological, orthopedic, neoplastic diseases that may hamper the participation of the patient and outcome of the program
2. Recent major surgery  $\leq 1$  month before enrolment
3. Pregnancy
4. Active pulmonary tuberculosis
5. Severe cognitive impairment such as dementia

**Date of first enrolment**

01/04/2021

**Date of final enrolment**

30/10/2022

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

India

**Study participating centre**

**Symbiosis International (Deemed University)**

Symbiosis Knowledge Village

Gram: Lavale, Tal: Mulshi

Pune

India

412115

**Sponsor information****Organisation**

University of Leicester

# Funder(s)

## Funder type

Government

## 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

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analyzed during the current study will be available upon request.

## IPD sharing plan summary

Available on request