

Protocol for a single-arm feasibility trial assessing home-based pulmonary rehabilitation for adults with idiopathic pulmonary fibrosis in Delhi, India

This research is part of the Global RECHARGE Project, an NIHR (National Institute for Health and Care Research)-funded Global Health Research Group for Pulmonary Rehabilitation in low- and middle-income countries.

ABSTRACT

Background and objectives: Pulmonary rehabilitation (PR) is recommended for individuals with idiopathic pulmonary fibrosis (IPF). Limited access and barriers such as distance and cost associated with center-based PR in India support the development of home-based PR (HBPR) as an additional option for services. This study assessed the feasibility and acceptability of HBPR for individuals with IPF in Delhi, India.

Methods and analysis

This study comprised of three work packages (WPs).

WP1 Collected qualitative data and conducted interviews with adults with a diagnosis of IPF, family caregivers, and healthcare professionals to guide the content of the home-based PR trial using the SPACE for COPD Manual(n=40).

WP2 is a single-arm feasibility trial, Individuals with IPF were recruited to a 6-week HBPR program using a paper-based manual. home-based PR for people living with IPF in Delhi, India (n=30). The primary outcome was feasibility; with progression to a full trial based on recruitment (percentage of eligible patients recruited), retention (percentage who completed the outcome assessment), and acceptability. Secondary outcome measures included measures of exercise capacity, respiratory symptoms, psychological well-being, and the economic burden of chronic respiratory disease.

WP3 conducted a qualitative evaluation of the PR intervention through interviews with patients (up to n=30).

Results: Three major themes were generated from pre qualitative interview: (i) Health impact, which included pathophysiological changes, range of symptoms experienced, disease consequences, and impact of comorbidities; (ii) Disease management, which described strategies to control the progression and overall management of IPF, such as medications and exercises; (iii) Mode of Pulmonary Rehabilitation, which described perceptions regarding HBPR, comparisons with center-based programmes, and how HBPR may fit as part of a menu of PR delivery options. Out of 42 screened, 36 individuals with IPF were eligible (86% of screened). Of these, 30 were recruited (83% of eligible, 71% of screened; 60±13 years, 53% female), with 25 completing their follow-up assessment (83% of recruited). HBPR was generally well-accepted in this population, with qualitative themes including: ‘facilitators and

barriers to HBPR' (family support and flexibility of home environment were facilitators whereas lack of supervision and inability to follow a routine were barriers), 'perceived changes from taking part in HBPR' (improved exercise capacity, breathlessness, confidence, and independency), and 'how to improve HBPR in the future' (translating the manual into various languages, and incorporating into a more hybrid approach).

Conclusion: HBPR using a paper-based manual was feasible and acceptable, making it potentially suitable to improve uptake and completion of PR for individuals with IPF in Delhi, India.

Paper-based ILD manual SPACEforCOPD©' manual developed in the UK

Content		Contents
Stage 1		Healthy eating 96
What's happened to your lungs?	6	Travelling and your lung disease 109
How to get fitter	9	Stage 4
Setting your goals	27	Your hobbies and staying fit 114
Managing your stress	30	Your relationships 123
Your emotions	32	Dealing with setbacks 126
Controlling your breathing	35	Life- Foundation 129
Fatigue and Management	44	Frequently Asked Questions & Appendix
Your medication	46	Frequently asked questions 132
Stage 2		Setting your walking speed 136
How to stay fit	52	Help for carers 141
Avoiding and managing days when you feel unwell	58	Advice about oxygen 146
Saving your energy	64	Smoking: advice on giving up 147
The right foods when you feel unwell	69	Information about your medication 152
Clearing your chest	73	Spare walking diaries 156
Stage 3		Spare strength training diary 157
How to get stronger	78	
Managing your stress	86	

