

SUPPLEMENTARY FILE**Home versus outpatient pulmonary rehabilitation in COPD: a propensity-matched cohort study****METHODS****Home-based exercise programme**

Patients undergoing home-based exercise were provided with a home exercise and education manual at the initial assessment. The individually tailored home exercise programme included both aerobic and resistance training components prescribed by experienced respiratory physiotherapists. The patient was taught how to perform each exercise and the prescription was documented and described in word and picture format in the home exercise and education manual. Patients were encouraged to complete the exercise programme at least three days per week.

The type of aerobic exercise was chosen by the patient and usually involved walking. Patients were encouraged to exercise to achieve a Borg CR-10 score of 3 to 4 and progression included increasing the time to achieve 30 minutes of aerobic exercise per day. Regarding resistance training, no specialist equipment was provided but upper and lower limb training was prescribed based on the American College of Sport's Medicine (ACSM) resistance training guidelines with resistance provided by body weight and home-made weights e.g. water bottles. For these exercises, participants were prescribed one set of 15

repetitions with the aim of achieving a Borg Rate of Perceived Exertion score of 11 to 13 and progression included increasing the number of sets and repetitions to two sets of 20 exercises as well as increasing the weight lifted.

The educational component of the home exercise and education manual was developed by the members of the multidisciplinary team, with input from COPD patients, and included the same content as the education sessions provided as part of supervised outpatient PR. The topics of the education sessions were: lung anatomy; COPD pathophysiology; exercise in the management of COPD; COPD medication (inhaler technique, oxygen therapy, other medication); self-management of COPD; identification and management of a chest infection; smoking cessation; management of anxiety and depression; management of eating and swallowing difficulties; relaxation and management of activities of daily living.

During the eight week programme, the physiotherapist telephoned the patient to review and progress the exercise programme, to advise what sections of the educational content of the manual to read and to answer any questions relating to the exercise or educational content. Telephone calls would typically last 15 minutes.

Outpatient supervised pulmonary rehabilitation (PR)

Pulmonary rehabilitation (PR) was an 8-week outpatient exercise and multidisciplinary education program. It was delivered according to the British Thoracic Society Quality Standards for PR in a gymnasium or community hall. It comprised two supervised sessions of exercise and education, and at least one additional unsupervised home-based exercise session per week. Each supervised session would last two hours (60 minutes supervised exercise, 45 minutes education).

Respiratory physiotherapists supervised the exercise sessions which involved progressive, individually tailored aerobic and resistance training. Initial walking speed was prescribed at 80% of predicted peak oxygen consumption based on the Incremental Shuttle Walk test (ISW) performance with the aim of patients exercising for 15 minutes continuously on a treadmill (gymnasium setting) or 30 minutes on a walking circuit (community hall). For patients attending PR in a gymnasium only, initial endurance cycling was set at a workload to achieve level 3 to 4 on the Borg Dyspnoea Scale with the aim of patients completing 15 minutes continuous training. Upper and lower limb resistance training was based on the ACSM's resistance training guidelines (4). For strength training, the initial prescription was 2 sets of 4 to 12 repetitions at 60% of a one-repetition maximum and the endurance prescription was 1 to 2 sets of 15 to 20 repetitions at 50% of a one-repetition maximum. Resistance was provided by weights machines in the gymnasium setting and free weights / body weight in the community hall. Patients received an individualised, written home exercise program during PR and an individualised structured, written plan for on-going exercise maintenance on completion of PR.

A multidisciplinary team, including physiotherapists, psychologists, dieticians, nurses, doctors, occupational therapists, dieticians, social workers, speech and language therapists

and expert patients, delivered the education sessions. They aimed to develop patients' understanding and holistic management of their disease, and topics included lung anatomy; COPD pathophysiology; exercise in the management of COPD; COPD medication (inhaler technique, oxygen therapy, other medication); self-management of COPD; identification and management of a chest infection; smoking cessation; management of anxiety and depression; management of eating and swallowing difficulties; relaxation; management of activities of daily living and a general question and answers session.

RESULTS

Table 1. Global Rating of Change Questionnaire

Response	PR	Home	p-value
1: "I feel much better"	53	37	0.003
2: "I feel a little better"	40	46	
3: "I feel no different"	6	5	
4: "I feel a little worse"	1	10	
5: "I feel much worse"	0	2	

Data reported as percentage.

Abbreviations: Home: Home-Based Exercise Programme; PR: Pulmonary Rehabilitation.