involving twice-weekly sessions for 8 weeks. Patients were assessed pre- and post-programme by Chronic Respiratory Questionnaire (CRQ), the Hospital Anxiety and Depression Scale (HADS) and an incremental shuttle-walking test. Satisfaction was measured using the Client Satisfaction Questionnaire (CSQ). Results are expressed as mean (SD). Four patients aged 65–79 enrolled for this feasibility study, which was approved by the North of Scotland Research Ethics Service.

Results All patients completed the programme. The technology performed well: one patient missed a single session due to a temporary problem connecting to the Internet. Clinical improvements occurred in all patients, comparable to those in a conventional programme. Compared to pre-programme values, there were improvements in: shuttle walking, 88 (35) m; CRQ dyspnoea 8 (5.2); emotion 2.8 (1); fatigue 5.3 (3.7) and mastery 4 (2.6). HADS anxiety and depression scores reduced in three of four patients. Satisfaction scores were high: CSQ values 29–32.

Conclusion The system allowed delivery of effective group-based pulmonary rehabilitation to patients in their own homes and should improve accessibility for future patients. Larger studies are warranted.

P52 IS A PULMONARY REHABILITATION (PR) PROGRAMME EFFECTIVE IN REDUCING SEVERE SYMPTOMS OF ANXIETY AND DEPRESSION IN PATIENTS WITH COPD?

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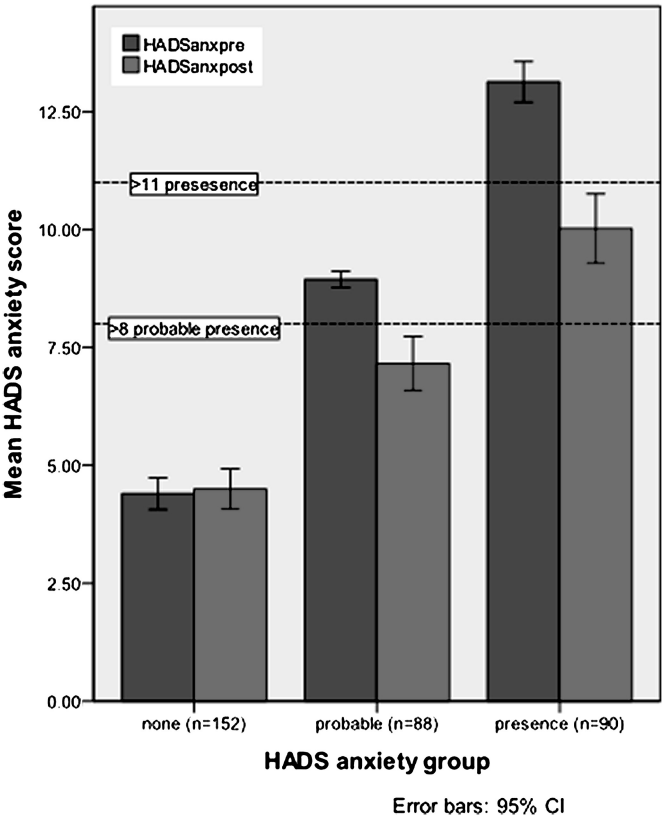
Introduction Patients with COPD have a high prevalence of anxiety and depression which has been associated with poorer health outcomes. PR has been found to be successful in reducing anxiety and depression. Previous studies have not differentiated between mild, moderate and severe symptoms of anxiety and depression and therefore the efficacy of PR are unproven in treating those across a spectrum of anxious and depressed symptoms. Our study aimed to explore the effectiveness of a PR programme in reducing mild, moderate and severe symptoms of anxiety and depression in patients with COPD.

Methods Patients with a clinical and spirometric (GOLD stage ≥2) diagnosis of COPD were identified from the PR database in Leicester, UK. Patients were categorised into three groups based on their Hospital Anxiety and Depression Scale (HADS) scores pre PR ('none' 0–7, 'probable' 8–10 and 'presence' 11–14). These patients undertook an outpatient PR programme between 2000 and January 2009 at a single centre. Changes in HADS scores were retrospectively compared. The two subscales were analysed separately.

Results 518 patients were identified (mean (SD) age 69.2 (8.80) years FEV_1 39.9% (15.10) predicted 310 male). Patients with a 'probable' and a 'presence' of anxiety and depression had a reduction in HADS scores pre- to post- PR ($p<0.001$). Patients who had 'none' did not have a reduction ($p>0.05$) (Abstract P52 Figure 1). An ANOVA with post hoc analysis showed a difference in the amount of change pre to post PR between the three groups. Patients with a 'presence' had the greatest reductions in their scores ($p<0.05$).



Abstract P52 Figure 1 Results from a paired t-test. Levels of anxiety pre and post PR as measured by the HADS.

Conclusions PR is effective in reducing moderate and severe symptoms of anxiety and depression in patients with COPD. However, PR is not effective in reducing severe symptoms to a level which represents no presence of anxiety and depression.

P53 THE EFFECT OF CO-MORBIDITIES ON RESPONSE TO PULMONARY REHABILITATION

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Introduction Most patients with COPD are elderly, and the presence of co-morbidities is not uncommon. Co-morbidities are an important determinant of health related quality of life in patients with COPD. Although pulmonary rehabilitation (PR) is well known to improve exercise performance, health-related quality of life and symptoms, a proportion of patients are non-responders. We hypothesised that improvement in exercise capacity and health-related quality of life following PR may be limited in the presence of co-morbidities.

Methods A structured history was taken from 128 patients referred to an 8-week supervised outpatient PR programme. Individuals' self-reported co-morbidities were assessed by the Charlson index, which assigns to each disease a score that is proportional to the disease related risk of death. The calculated Charlson index did not include COPD in the individual's score as suggested in the original description. In 115 patients completing the programme, changes in incremental shuttle walk (ISW) and chronic respiratory disease questionnaire (CRQ) domains following PR were calculated, and