

curriculum was strengthened, setting out guidance for the minimum requirements for CF training to achieve CCT. However, because the curriculum is already full we wished to assess whether the current training schemes in the UK can cope with this increased need. We have already canvassed the views of the trainees<sup>1</sup>, and now wished to assess the views of those tasked with organising this training.

**Method** We surveyed all 19 UK Training Program Directors (Adult Respiratory Medicine), asking about availability of CF experience and how this new guidance was being applied for their 596 trainees.

**Results** Only 12 Directors (63%) were aware of trainees with a special interest in CF (26, half currently gaining out-of-programme experience [OOPE]). Northern Ireland (NI) and SE Scotland had most trainees pursuing an interest in CF (22% and 20% respectively), where 75% of these were undertaking OOPE.

Only 1 centre (NI) had changed trainee allocation arrangements to accommodate the 2010 curriculum changes, but despite this trainees rotated to a specialist CF centre in only 12 Deaneries (63%), where the average training time was 3 months. About 180 trainees (30%) did not rotate to a specialist centre, and in these cases Directors reported that individuals were required to make their own arrangements (26%) or had organised day-release or training days (18%).

**Conclusions** This survey highlights that, despite the increasing numbers of adult CF patients and the need for suitable training for our future respiratory colleagues now reflected in the curriculum, a significant proportion of trainees in the UK still have limited exposure to CF during their training. Further representations have been made to the training authorities to reinforce the need for increased CF training.

#### Reference:

1. CF Experience for Respiratory Trainees in the UK. *Journal of Cystic Fibrosis* 2012,11 (Suppl1), S127, 274.

## Pulmonary rehabilitation

P99

### PULMONARY REHABILITATION IN INTERSTITIAL LUNG DISEASE PATIENTS: EFFECTS ON MAXIMUM EXERCISE CAPACITY, ANXIETY AND DEPRESSION

doi:10.1136/thoraxjnl-2012-202678.341

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**Background** There is increasing evidence to support the use of Pulmonary Rehabilitation (PR) in patients with Interstitial Lung Disease (ILD). Several studies have shown significant improvements in six minute walk distance and health related quality of life measures, such as the Chronic Respiratory Disease Questionnaire (CRQ), following PR (Holland *et al*; 2008). However there is a paucity of data surrounding other outcome measures such as maximal walking exercise tests (the incremental shuttle walk: ISW) or anxiety and depression levels. As the ISW and the Hospital Anxiety and Depression scale (HAD) are commonly used outcome measures in UK PR programmes, the aim of the study was to assess the response of these outcomes to PR in the ILD population.

**Methods** We analysed outcome data in 62 (30 male:32 female) consecutive ILD patients completing an 8-week outpatient PR programme. Diagnoses were idiopathic pulmonary fibrosis (n=29), connective tissue related ILD (n=8), sarcoidosis (n=14),

hypersensitivity pneumonitis (n=3), asbestosis (n=4), drug induced ILD (n=4). Pre- and post-PR data was analysed using either Paired T-Tests or Wilcoxon Tests.

**Results** Baseline mean (standard deviation) age was 70(11) years, FVC 69 (22)% predicted and median (25<sup>th</sup>, 75<sup>th</sup> centiles) MRC dyspnoea score was 4 (3, 4). There was a significant improvement in ISW (95% confidence intervals 31, 69 metres), HAD-Anxiety (95% CI -0.8, -2.4) and HAD-Depression (95% CI -0.7, -2.3). There were also significant improvements in all domains of the CRQ.

**Conclusion** The ISW and HAD scores are responsive to PR in patients with ILD.

P100

### THE CLINICAL COPD QUESTIONNAIRE: RESPONSE TO PULMONARY REHABILITATION

doi:10.1136/thoraxjnl-2012-202678.342

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**Background** The Clinical COPD Questionnaire (CCQ) is a 10-item health status instrument which has been shown to be reliable and valid in COPD. It takes only two minutes to complete and is simple to score, ranging from 0 (best) – 6 (worst health status). A change in the total CCQ score of 0.4 or more is considered clinically significant (Kocks *et al Respir Res* 2006). There is a relative paucity of data assessing the responsiveness of the CCQ to pulmonary rehabilitation (PR). We hypothesised that the CCQ would be responsive to PR and that changes would correlate with changes in other well established health status instruments (Chronic Respiratory Questionnaire: CRQ, St George's Respiratory Questionnaire: SGRQ and the COPD Assessment Test: CAT).

**Methods** 75 consecutive COPD patients referred to an 8-week outpatient PR programme were recruited. The CCQ, along with the CRQ, SGRQ, CAT, and incremental shuttle walk (ISW), were measured before and after PR. Paired t-test was used to compare outcomes before and after PR, whilst Spearman's rank correlation was used to assess association between change in CCQ with change in other health status questionnaires.

**Results** 53 patients completed PR. Baseline characteristics were 33 Male:20 Female, mean (standard deviation) age 68.5(9.9) years, FEV1% predicted 58 (27) and ISW 224 (178) metres. There was a significant reduction (improvement) in CCQ following PR (Pre: 2.9 (1.3) versus Post: 2.1 (1.2); 95% confidence interval -0.4 to -1.0). Significant improvements were also seen in ISW, CRQ domains, SGRQ and CAT with PR. Changes in CCQ correlated significantly with changes in the other health status instruments (see table 1).

**Conclusion** The CCQ is responsive to PR and a practical alternative to longer-established health status instruments.

Abstract P100 Table 1 Relationship between change in CCQ and change in CRQ, SGRQ and CAT with PR  $\Delta$  = Change in PR

$\Delta$ CCQ	Rho	p-value
$\Delta$ CRQ Dyspnoea	-0.44	0.001
$\Delta$ CRQ Fatigue	-0.44	0.001
$\Delta$ CRQ Emotion	-0.34	0.01
$\Delta$ CRQ Mastery	-0.46	<0.001
$\Delta$ SGRQ Symptoms	0.42	0.005
$\Delta$ SGRQ Activities	0.59	<0.001
$\Delta$ SGRQ Impact	0.60	<0.001
$\Delta$ SGRQ Total	0.65	<0.001
$\Delta$ CAT	0.64	<0.001