

Abstract P245 Table 1

	East and West Yorkshire			South Yorkshire		
	Mean Improvement score (SD)	% Improvement	p value	Mean Improvement score (SD)	% improvement	p value
Confidence in knowing the indications for bronchoscopy	0.6 (0.63)	12.0	0.007	0.7 (0.72)	13.4	0.008
Confidence in knowing the contra-indications for bronchoscopy	1.0 (1.06)	20.0	0.007	0.6 (0.74)	12.0	0.013
Confidence in accurately identifying all normal anatomy	1.1 (0.52)	22.6	<0.001	0.8 (0.77)	16.0	0.006
Confidence in knowing the complications for bronchoscopy	0.7 (0.72)	13.4	0.008	0.5 (0.64)	9.4	0.020
Confidence in knowing the safe limits of conscious sedation	1.2 (1.08)	24.0	0.003	0.9 (1.03)	18.6	0.008
Confidence in technical ability in handling the bronchoscope	1.1 (0.64)	22.6	0.001	1.1 (1.03)	21.4	0.004
Confidence in consenting the patient and quoting accurate complication rates	-	-	-	1.0 (1.06)	20.0	0.007
Confidence with the correct dosage of lidocaine when anaesthetising the airways	-	-	-	1.3 (1.23)	26.6	0.003
Confidence in using the appropriate sampling technique for each suspected pathology	-	-	-	1.5 (0.99)	29.4	0.002

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P246 RESPIRATORY PATIENT ACTIVITY, PHYSICAL EXERCISE IN NORMAL INDIVIDUALS, AND TELEHEALTH PREDICTION OF AIR POLLUTION

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Background While air pollution is associated with morbidity and mortality in patients with respiratory and cardiac disease, there are also effects in normal individuals particularly if exercising on days when pollutants are high. The accepted advice on these days is to reduce exposure by restricting activity or remaining indoors. Consequently, in the European Union, high PM10 levels in 2005 caused 625M individual restricted activity days, encouraging national telehealth programmes, which incorporate this approach. *Know and Respond*, introduced in Scotland in February 2012, informs individuals by text, email, or landline message of the next day's air pollution prediction.

Study Five main focus groups were contacted—COPD patients registered with our LTOT service (n=20, age 55–73), in-patient respiratory patients (n= 6 COPD and n=7 asthmatics, age 24–75), regular recreational joggers from central Glasgow (n=25, age 24–30), competitive athletes (n=15, age 21–26), and a group of occasional exercisers, who were predominately sedentary otherwise (n=15, age 25–30). Questions were asked about multimedia access, basic knowledge of air pollution and its' influence on daily activities.

Results Only 5 of the LTOT patients had internet access, and 7 had text receiving mobiles. All other subjects had internet access,

and text phones. In the in-patient asthmatic group most were aware of the links between air pollution and health (6/7) and would change their exercise habits. In comparison only one COPD patient reported a link and consideration for air pollution when exercising. Some of the competitive athletes (13/15) and occasional exercisers (9/15) were aware of PM2.5 as a risk pollutant which might influence their choice of activity, but none of the joggers, who all ran regularly even during the high levels of air pollution in Glasgow during March 2012 when unseasonal weather patterns drew pollutant dusts from Europe across Scotland.

Conclusion We would reasonably contend that the aim of *Know and Respond* is justified given the known effects of air pollution however we acknowledge that awareness of the background relevance of air pollution is extremely variable. *Know and Respond* patient cards have been sent to general practise surgeries nationally to encourage patients to register with this free service.

P247 IMPACT OF IMPLEMENTING COPD SELF MANAGEMENT PLANS & RESCUE MEDICATIONS ACROSS 3 HOSPITALS

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Introduction COPD is the second leading cause of emergency admissions in the UK. National guidelines for managing COPD advise that patients at risk of having or those who have had an exacerbation of COPD should be given self-management advice that encourages them to respond promptly to their symptoms. As part of this, they should be given a course of oral antibiotics and corticosteroids to keep at

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Hospital	COPD Readmission Rate %			
	30 day readmission for patients given and not given self management plan & rescue medication		90 day readmission for patients given and not given self management plan & rescue medication	
	Not Given (%)	Given Rescue Packs & Plan (%)	Not Given (%)	Given Rescue Packs & Plan (%)
1 (n=100)	18.8	10.3	28.1	25.0
2 (n=92)	16.3	12.2	23.3	22.2
3 (n=265)	38.5	21.5	44.5	38.5
Total	29.7	17.2	36.6	32.3

home for use in the event of an exacerbation. Whilst this approach is established with a strong evidence base in asthma, evidence suggestive that this is effective in reducing hospital admissions and readmissions in COPD is inconsistent.¹

Aims and Objectives This study aims to assess the impact of implementing a unified self management strategy, consisting of self management plan, education and rescue medications, in reducing hospital inpatient readmissions at 30 and 90 days.

Methods The study was carried out over six months, across three acute hospitals, between November 2010 and April 2011. All patients admitted with a primary diagnosis of COPD exacerbation were included and given the following unless there were any contra-indications for providing this:

A unified written self management plan

Rescue medication of a 7 day course of prednisolone and 5 day course of antibiotic

Education on self management and how to use their rescue medication

To assess the impact of the self management strategy, data was collected for both patients who did and did not receive this intervention. For the purpose of accuracy, 10% of data was cross-checked by an independent person.

Results During the 6 month audit period, 457 patients with acute hospital admission for COPD exacerbation were recruited, with 68%, 54.6% and 24.5% (mean 40.1%) of patients at each of the 3 sites receiving a self management plan and rescue medication. Main reasons for not receiving included patients not speaking English, couldn't understand self management advice or refused to self manage.

Conclusions Self management and rescue medication is associated with a reduction in 30 and 90 day readmission rates by 12.5% and 4.3% respectively. A high proportion of patients did not receive these for practical reasons which need addressing for future evaluations.

References

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P248 BARRIERS TO UPTAKE OF OXYGEN THERAPY IN MALAWI: A QUALITATIVE STUDY

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Introduction and Objectives Oxygen is a scarce resource in many developing countries and there are current efforts to increase its availability. Clinicians in Malawi often report refusal of oxygen by patients. This qualitative study explores attitudes to oxygen therapy in Malawi.

Method Focus group discussions involving 86 participants were held in rural and urban communities in Malawi until no new ideas were found. Framework analysis of transcripts of the audio recordings was carried out by at least two researchers to identify recurring themes.

Results We found that participants' knowledge of oxygen was limited, although many recognised that oxygen is used for respiratory diseases in adults and children. Knowledge of oxygen arose from personal experience, observation in hospital and discussion in local communities. Participants were keen to receive further education about oxygen therapy.

Attitudes to oxygen varied. Some participants recognised that it could benefit those with respiratory and other diseases, and had positive experiences of using it. Others expressed fear or anxiety about using oxygen and cited this as a reason for refusing it. Many of the participants had witnessed a patient's death following the use of oxygen: "they are afraid that the patient is going to die ... because they had previously seen another patient dying after being placed on the machine". Some had heard in their local communities that oxygen was used prior to the death of a patient: "even at the funeral ceremony people are told that the deceased went to the hospital and there he was put on oxygen and he died there, so this message terrifies people".

Participants found the appearance and noise from oxygen concentrators alarming: "that device is fearsome just by looking at it. When you think of someone inserting this device in the nose or mouth, you may think they want to finish off the life of your child".

Conclusion This study impacts on efforts to increase the use of oxygen in Malawi and other developing countries. We have shown a need for education at a community level and for guidance for health workers seeking to increase the uptake of oxygen.

Mechanisms of chronic lung disease

P249 COULD AN INTRONIC SNP IN THE ALPHA-1-ANTITRYPSIN GENE CONFER PROTECTION TO CHRONIC OBSTRUCTIVE PULMONARY DISEASE?

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Chronic obstructive pulmonary disease (COPD) results from complex interactions between both environmental and genetic factors. This is evidenced by the considerable variation found in the risk of developing COPD despite the established dose-response relationship from the biggest known risk factor, tobacco smoking. Thus, genetic susceptibility remains poorly understood given the best-characterised genetic determinant of COPD, severe alpha-1-antitrypsin (AAT) deficiency, only affects 1–2% of all COPD patients.

A genome-wide association study implicated an intronic single nucleotide polymorphism (SNP) rs3748312 within AAT gene as the strongest locus associated with lung function (a heritable surrogate predictor of COPD). Thus, this was investigated as part of a larger research project aimed at identifying rare sequence variants of the AAT gene that may be associated with COPD.

A sample of 230 COPD patients of European descent either predicted to carry one of six haplotypes conferring COPD risk, or who presented with severe early-onset COPD were genotyped for SNP rs3748312 within the AAT gene utilising TaqMan® assay with >5% of samples sequenced for concordance. The data was compared against control data of 60 patients of European ancestry from dbSNP.

In examining the allelic distribution ($p=0.049$, OR 0.57 95% CI: 0.323–1.003) borderline significance was noted, however no significant difference between cases and controls was found in the genotype distribution ($p=0.096$ OR 0.583, 95% CI 0.308–1.106).

This preliminary study suggests the SNP merits further work in a more adequately powered investigation with adjustment for covariates such as age, smoking history and lung function given the borderline nature of the findings indicative of a protective effect for developing COPD with the minor allele (A). It is feasible that associated functional SNPs in linkage disequilibrium reflect the true association.