P33 'LIGHT TOUCH' TELEMONITORING FOR PEOPLE WITH COPD IN LOTHIAN: A PILOT EVALUATION WITH NESTED QUALITATIVE STUDY

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10.1136/thoraxjnl-2014-206260.183

Background and aim Professionally monitored telehealthcare has significant workload implications, but qualitative work suggested that pulse oximetry could potentially contribute to self-monitoring. We aimed to evaluate the acceptability and perceived utility of a COPD 'Light Touch' service.

'Light Touch' intervention People with COPD used a pulse oximeter and symptom diary to self-monitor and self-refer according to a self-management plan. The service was overseen (though not actively monitored) by community-based respiratory/long-term conditions teams who were contactable by a telephone helpline.

Method We undertook a before-and-after study with quantitative data collection at baseline and six-months. Outcomes were St George's Respiratory Questionnaire (SGRQ), Hospital Anxiety and Depression Scale (HADS) and service use. Nested semi-structured interviews with patients (at baseline and six-months) and managers, and a focus group of healthcare professionals explored perceptions of the service.

Results We recruited 51 patients. Quality-of-Life (SGRQ): 21 (46%) participants improved by ≥4 (the minimum important difference); 12 (26%) deteriorated by ≥4. HADS improved: more participants had normal scores for anxiety (65%) and depression (80%) at 6 months than at baseline (51% and 64%). There were fewer surgery consultations and more telephone consultations, antibiotic, oral steroid and nebulised therapy prescriptions recorded during the study period compared to the previous year. Only 18 (39%) contacted the Light-Touch Helpline.

We conducted interviews with 20 participants (36 interviews), 6 managers, and a focus group of 8 clinicians. Patients were generally positive and embraced 'Light-Touch' telemonitoring as part of their daily self-surveillance. The readings were reassuring and gave them confidence to make self-management decisions. Most patients did daily checks though several had stopped routine monitoring preferring to 'check their readings as and when the need arises'. Healthcare professionals were concerned that patients had disengaged with their service. Few patients contacted the clinical teams for help or advice during the study and 6-monthly telephone reviews were introduced to maintain contact.

Conclusion 'In contrast to professionally-monitored telehealthcare, 'Light-Touch' seemed to reduce the contacts between patients and professionals. Whilst this may represent effective self-management, there were concerns that loss of engagement with healthcare services may be detrimental to achieving prompt management of exacerbations.

P34 WHAT IS INTEGRATED CARE AND WHAT IS THE VALUE OF AN INTEGRATED RESPIRATORY SPECIALIST?

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10.1136/thoraxjnl-2014-206260.184

Aim The way we deliver healthcare in the UK is changing, joining up care between the different health sectors has created a new field of "integrated care". Recent publications from the Kings Fund, Nuffield Trust and National Voices has shown that it is difficult to define "integrated care". This project surveyed health professionals on their views about integrated care and the value of integrated respiratory specialists.

Method A questionnaire was sent to all BTS members in Oct 2013 on the role of integrated care specialists, 216 responses were received.

Results Most respondents (82.5%, 178/216) included integration of primary and secondary care in their definition of integrated care, only 36.5% (65/178) included community, and a smaller number included social care as part of the definition. In the free-text there was also emphasis on the bridging role of the post, and providing "seamless care" across sectors.

62% (86/139) agreed that integrated respiratory specialists had added value (compared to respiratory specialist roles); providing continuity of care for a defined population (87%, [121/139), and 77% (106/138) agreed that they improve outcomes for patients with a long term condition. Eighty-nine percent (124/140) also agreed that integrated specialists improve relationships between primary and secondary care. When asked the most important role that an integrated respiratory specialist should undertake (98 comments), the provision of specialist leadership, clinical decision-making and supervision (20 comments) were highly rated. Teaching (10 comments) and providing liaison support for the whole pathway were also important (9 comments).

Conclusion 82% of respondents (178/216) included integration of primary and secondary care in their definition of integrated care. However 14.4% were unsure of what integrated care was. Considerable more work is needed to promote this new way of working and potential career pathway. However of those who did know about these roles, a large majority agreed that these roles had added value compared to traditional specialist roles.

Funded by the BTS.

Abstracts M35 to M43 can be found on pages A208–A211.

Asthma: investigation and organisation of care

P44 ASSESSMENT OF SPIROMETRY AND IMPULSE OSCILLOMETRY IN RELATION TO ASTHMA CONTROL

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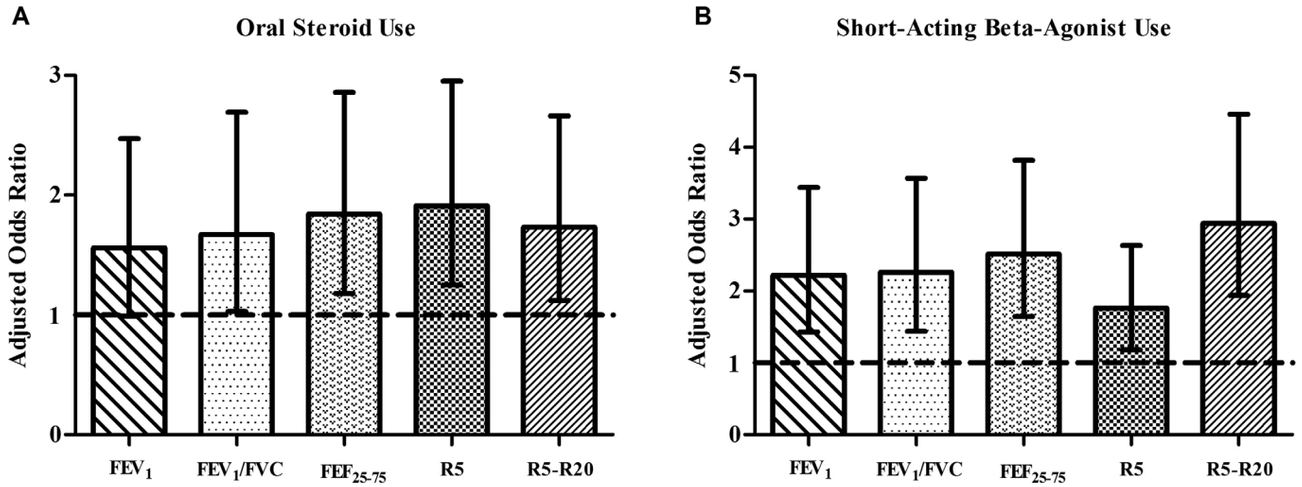
10.1136/thoraxjnl-2014-206260.185

Background Guidelines advocate the use of spirometry to assess pulmonary function in asthmatic patients. Commonly used measures include forced expiratory volume in 1 second (FEV_1), forced expiratory ratio (FEV_1/FVC) and forced mid-expiratory flow between 25% and 75% of forced vital capacity ($FEF_{25–75}$). Impulse oscillometry (IOS) is an effort independent test performed during tidal breathing. IOS may be used to assess the total and central airway resistance at 5 Hz (R5) and 20 Hz (R20) respectively and hence derive the peripheral airway resistance from the difference (R5-R20).

Objective To compare spirometry and IOS as tests of global airway function (i.e. FEV_1, FEV_1/FVC, R5) and putative measures of small airways function (i.e. $FEF_{25–75}$, R5-R20) and their relationship to long-term asthma control.



Abstract P44 Figure 1 Adjusted odds ratios (95% CI) for oral steroid (A) and short-acting beta-agonist use (B) in the year preceding measurements of FEVi (<80% predicted, n = 140 vs >80% predicted, n = 302), FEV1/FVC (<0.70, n = 131 vs >0.70, n = 311), $FEF_{25–75}$ (<60% predicted, n = 238 vs >60% predicted, n = 204), R5 (>150% predicted, n = 183 vs <150% predicted, n = 259) and R5-R20 (>0.10 kPa-L^{-1}-s, n = 185 vs <0.10 kPa-L^{-1}-s, n = 257). The 95% CIs which exclude unity are defined as being of statistical significance.

Methods Spirometry and IOS measurements from asthmatics were linked to a health informatics database for oral steroid and short-acting beta agonist (SABA) use 1 year prior to the measurements.

Results 442 patients had both spirometry and IOS, mean FEV_1= 86% predicted, 94% on ICS, median dose 800 µg/day. IOS and spirometry measures were equally predictive of impaired asthma control for both oral steroid and SABA use. For oral steroid use, the adjusted odds ratio, OR (95% CI): FEV_1 <80%: 1.56(0.99–2.47) p = 0.056, FEV_1/FVC25–75 <60%: 1.84(1.18–2.86) p = 0.007, R5 >150%: 1.91(1.25–2.95) p = 0.003 and R5-R20 >0.1 kPa·L^{-1}·s 1.73(1.12–2.66) p = 0.013. For SABA use, the adjusted OR (95% CI): FEV_1 <80%: 2.22(1.43–3.44) p < 0.001, FEV_1/FVC 25–75 <60%: 2.51(1.65–3.82) p < 0.001, R5 >150%: 1.76(1.18–2.63) p = 0.006 and R5-R20 >0.1 kPa·L^{-1}·s: 2.94(1.94–4.46) p.

Conclusion Spirometry or IOS measurements are equally useful as potential markers of asthma control in persistent asthmatic patients.

P45 SPUTUM AND NASAL MARKERS OF INFLAMMATION IN SEVERE ASTHMA - A PILOT STUDY

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10.1136/thoraxjnl-2014-206260.186

Introduction and objectives The Manchester Severe Asthma Team has successfully been using sputum eosinophil monitoring for several years to help tailor steroid medication. Whilst very useful for patients able to produce a sputum sample, some patients cannot produce a sample. As a result we looked at developing an alternative method of monitoring using nasal lavage samples to study the intra-individual changes in inflammation in severe asthma.

Abstract P45 Table 1 Characteristics of severe asthma patients enrolled on James Trust Study

	N	Minimum	Maximum	Mean	Std. Deviation
Patient age at sample	32	23	77	48.6	12.8
BMI	26	19.7	51	30.8	6.6
% predicted FEV1	26	43	131	79	23.1
FEV1/FVC	27	48	111	73	14.5
BDP equivalent	32	0	4800	1785	1245.2
Prednisolone equivalent	32	0	60	8.27	13.6
Total IgE	23	2.3	1600	287.6	450.8
Smoking pack years	26	0	60	7.8	14.3

Methods Patients requiring sputum monitoring as part of their clinical management were invited to take part in this pilot and to provide an additional nasal lavage sample obtained using an olive method. Participants were clear of infection at time of sampling. Sputum was either spontaneous or induced using the traditional 3%-4%-5% nebulised sodium chloride procedure. ECP (Eosinophil Cationic Protein) was measured in sputum and nasal supernatants using a commercial ELISA kit (Mesacup, MBL). Differential cell count (DCC) was attempted for both sputum and nasal sample types.

Results This abstract show the results obtained for the first 32 consecutive patients. Our patient population is described in Table 1, 69% female, 69% atopic (as defined by positive RAST of elevated total IgE), and 50% were non-smokers, 7.6 current smokers and 42.4% ex-smokers. No patient was immunosuppressed or on IM Triamcinolone.

ECP levels were as follows:

- Sputum: median 2650 (min:20.76–28603 ng/ml), 100% of samples had detectable levels.
- Nasal lavage: 0(0–7.6), 20%.

DCC were as follows:

- Sputum: 38% patients were eosinophil positive (as defined by >3%),
- Nasal lavage: no eosinophil was detected, 38.5% of samples had a DCC but interpretation was hindered by low cell yield.

Sputum DCC/ECP did not correlate significantly with nasal ECP (Pearson R=0.168, p = 0.374 and R=-0.048, p = 0.807 respectively). Nasal DCC data could not be computed as no patient was found to be eosinophil positive.

Sputum DTT and sputum ECP correlated significantly (Pearson R=0.607, p = 0.001) as reported in the literature.

Conclusions At this stage of our pilot, intermediate data analysis shows that nasal sampling does not appear to be a successful alternative to sputum monitoring in severe asthma.