

Results are expressed as mean (SD). Both groups were well matched at baseline, with no significant difference between age 58.1 years (10.6) therapeutic CPAP group vs. 55.6 (6.9) placebo CPAP group, BMI 36.4 kg/m² (5.0) vs. 35.6 (3.6), HbA1c 8.5% (1.8) vs. 8.1% (1.6), or ODI 33.9/hour (21.9) vs. 35.7/hour (21.1). There was also no significant difference in therapeutic or placebo CPAP usage 3.7h/night (3.2) vs. 3.7 (2.6) $p=0.8$. There was no significant difference in SUA levels at baseline 362 $\mu\text{mol/l}$ (96) vs. 413 $\mu\text{mol/l}$ (91), or at 3 months 354 $\mu\text{mol/l}$ (83) vs. 406 $\mu\text{mol/l}$ (101). Baseline SUA did not correlate with Apnoea-Hypopnoea Index ($r=-0.2$, $p=0.5$), ODI ($r=0.1$, $p=0.6$), BMI ($r=0.1$, $p=0.4$), or HbA1c ($r=-0.3$, $p=0.9$). The mean change in SUA at 3 months did not differ significantly between treatment groups ($-7.6 \mu\text{mol/l}$ (35.9) vs. $-6.2 \mu\text{mol/l}$ (46.2); $p=0.9$, 95% CI -28.7 to 25.9).

This RCT using therapeutic and placebo CPAP has shown no evidence of a significant reduction in serum uric acid following three months treatment. This is in contrast to previously published uncontrolled data. This study was not however powered to detect a difference in SUA levels and may be therefore underpowered. Further RCTs are needed to explore this effect further.

1. West SD, et al. *Thorax*. 2007; 62:969–974.

Asthma outcomes

P270 REDUCING ASTHMA ADMISSIONS BY IMPROVING ASTHMA MANAGEMENT

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Introduction There were 79,794 emergency hospital admissions for asthma in the UK in 2008–09 - an estimated 75% were avoidable [1]. Asthma admissions from Bristol GP practices contributed to this; over 600 people were admitted to hospital in this year because of their asthma. NHS Bristol set out to improve asthma management and reduce asthma hospital admissions across the Primary Care Trust

Method Previous audits identified variations in asthma management across Bristol GP practices. Initial data searches identified some practices provided annual asthma reviews to 73.3% of their asthma register, others only 36.4%. Inhaler technique was checked in 60.8% of patients in some practices, in others only 16.9%. NHS Bristol commissioned NSHI Ltd* to run the IMPACT* service across Bristol GP practices to reduce these variations.

The IMPACT service provided a therapeutic review, modular education and detailed clinical review by diploma trained asthma nurses, according to agreed practice protocols. Asthmatic patients were invited to attend a structured clinical review of their asthma. Patients were given a self-management plan and educated in better managing their condition. Practice staff were also provided with enhanced respiratory training.

Results There has been a 19.5% reduction in asthma admissions in the period from February 2011–January 2012 in Bristol ($n=37$) compared to the previous year. There were 90 admissions in IMPACT practices ($n=13$) and 303 admissions in non-IMPACT practices ($n=43$) during this period. The IMPACT practices have observed a reduction of 35.6%, and the non-IMPACT practices have observed a reduction of 12.4%. Overall, 13 IMPACT practices accounted for 54.7% of the reduction.

Conclusion A structured approach to asthma management (including the provision of education to health care professionals in line with national asthma guidelines) and increasing patient awareness of asthma (including knowledge of how to manage their

symptoms) can reduce variations in asthma care and hospital admissions.

Reference

1. Asthma UK for Journalists: Key facts and stats: www.asthma.uk.org (Viewed July 2012).

*NSHI Ltd (National Services for Health Improvement).

*Improving the Management of Patients Asthma and COPD Treatment. (IMPACT) is an independent nurse service sponsored by TEVA UK Limited.

P271 IMPLEMENTING AN ACUTE ASTHMA CARE BUNDLE

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Background In 2010/11 NHS Wakefield District had the highest rate of admissions for acute exacerbation, in adults, within Yorkshire and Humber. The 2009 BTS adult asthma audit highlighted readmission rates within one month to be 19% compared to the national average of 8%. Furthermore, the same audit demonstrated that Pinderfields and Pontefract hospitals (part of Mid Yorkshire NHS Trust) were markedly underperforming, compared to national average, in terms of asthma review, patient education and follow up according to BTS/SIGN guidance.

Aims and objectives As part of a new asthma service we introduced an adult acute asthma 'care bundle' to improve the frequency of asthma review, patient education and improve post admission follow up. We also aimed to reduce 28 day readmission rates by 20% compared to 2010/11.

Methods In February 2011 Pinderfields General Hospital merged its acute inpatient medical services with Pontefract General Infirmary enabling a restructuring of the respiratory team and creation of a Mid Yorkshire Asthma service. Following a programme of staff education the acute asthma care bundle was introduced for all adult patients attending the Emergency Department and Acute Medical Unit with an exacerbation of asthma. Data were collected prospectively following the introduction of the care bundle and is compared against the 2009 BTS audit data. Data presented is from the first 46 patients.

Outcomes Following the introduction of the care bundle, inhaler technique assessment was performed in 75.6% of patients, compared to 38% previously. Asthma reviews (including self management plan and asthma education) were performed in 88.9% of patients, compared to 16% previously. Patients were recommended primary care follow up and had arranged secondary care follow up in 80 and 93.3% of admissions, compared to 19 and 37% previously. Furthermore, compared to 2010/11 there was a 66% reduction in 28 day readmissions, mean monthly average reduced from 5.0 to 1.67.

Conclusion As part of a restructured respiratory and asthma service the introduction of an acute asthma care bundle led to marked improvements of patient management and 28 day readmission rates.

P272 INFLUENCE OF BMI ON ASTHMA CONTROL QUESTIONNAIRE SCORES

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Background Asthma has been associated with obesity. However, the mechanisms of this association are not yet clear. It has been suggested that quality of life is influenced more strongly by BMI rather than other objective measures of severity in an obese population

1. We wished to explore the influence of BMI on asthma control

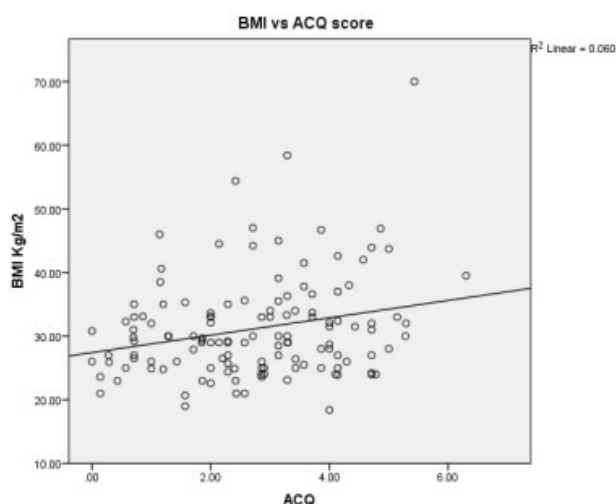
questionnaire (ACQ) scores of patients attending a specialist asthma clinic, as compared to objective parameters used for assessing disease severity.

Methods Measurements of IgE, Blood Eosinophils, FEV1%, FVC%, FEV1/FVC ratio, BMI and ACQ were recorded for patients attending an asthma clinic. BTS management step was also looked at.

Results 110 Pts mean (SD) age 52 (17), BMI 31 (8), ACQ 2.7 (1.4), Step BTS 3.5, FEV1% 71 (22.6) FEV1/FVC 69 (15.2) were investigated. There was a strong correlation between ACQ and BMI ($r=0.244$, $p<0.05$) and BTS step ($r=0.411$, $p<0.05$) but not IgE or FEV1/FVC ratio. There was a weak correlation between ACQ and Blood Eosinophils ($r=-0.184$, $p<0.05$). There were significantly worse ACQ scores in those with BMI ≥ 30 Kg/m² ($p<0.05$) and %FVC ($p<0.05$) but no significant differences in FEV1%, IgE, Blood Eosinophils or FEV1/FVC.

Conclusion Obesity appears to have a significant influence on ACQ scores as a measure of asthma control and needs to be taken into account when using this measure as an indication of severity, and formulating management plans with regards to patient care.

1. Scott S, Currie J, Albert P, Calverley P, Wilding JP. Risk of misdiagnosis, health-related quality of life, and BMI in patients who are overweight with doctor-diagnosed asthma. *Chest*. 2012 Mar; 141(3):616–24



Abstract P272 Figure 1

P273 ASTHMA: IS IT AS PREDICTABLE AS THE SEASONS?

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Background Current literature shows a distinct peak in asthma exacerbations in September among children, attributing it in part to their return to school and the spread of viral agents accompanying this. There is comparatively little recent research into the trends in adults, however. This study examines seasonal variations in asthma exacerbations in a population of adults with asthma from the community.

Methods The study population was identified from The Health Improvement Network database of anonymised GP records. Patients were between 16–40 years and had a prescription for asthma treatment during a qualification window of 1998–2000. Current analyses are restricted to patients with at least 5 years of data available pre-qualification. In this instance we defined exacerbations as acute oral prednisolone prescriptions. The daily total number of

exacerbations was calculated from 01-01-1999 to 31-12-2003. To explore the potential relationship between exacerbations and comorbidities, we also explored antibiotic and antiviral prescriptions as well as treatments for seasonal allergic rhinitis in this cohort.

Results 38,439 patients with current asthma were identified. Prednisolone exacerbations decreased from the beginning of the year until summer, at which point there was a peak in June (Figure: solid line). They then increased in autumn peaking at the end of October, then increasing throughout winter. During the summer there was a similar peak observed in both prednisolone exacerbations and seasonal allergic rhinitis prescriptions in this cohort. From September through to May the trends observed in prednisolone exacerbations were similar to those seen in antiviral and antibiotic prescriptions.

Conclusions Within the seasonal trends observed, there appears to be some correlation between the summer peak in exacerbations and seasonal allergic rhinitis prescriptions. There are also similarities seen in exacerbations during the beginning and end of the year and antibiotic and antiviral prescriptions. These findings suggest that infections and seasonal allergic rhinitis might be drivers for asthma exacerbations in adults.

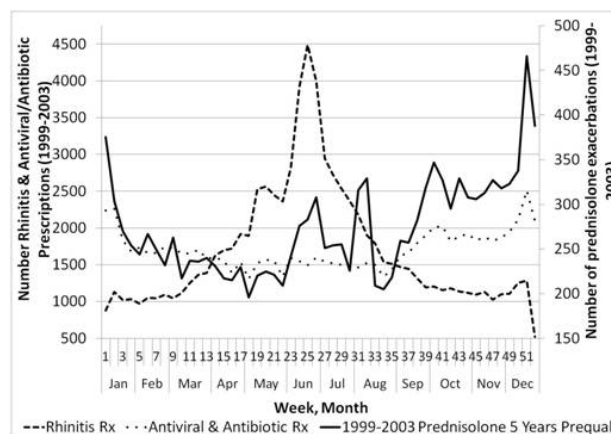


Figure: Daily total number of prednisolone exacerbations, allergic rhinitis prescriptions and antibiotic/antiviral prescriptions between 1999 and 2003

Abstract P273 Figure 1

P274 DESIGNING A BEHAVIOURAL-EDUCATIONAL INTERVENTION USING INTERVENTION MAPPING TO REDUCE THE HIGH RATES OF PAEDIATRIC ASTHMA HOSPITAL ADMISSIONS IN AN INNER-CITY AREA OF BIRMINGHAM

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Background Interventions based on empirically supported theory are effective in eliciting behaviour change (BC) (Michie & Prestwich, 2010). We used intervention mapping to design a BC intervention to promote effective asthma management.

Method An evidence review on BC interventions for asthma was conducted; quantitative admissions data was collated; and qualitative research was used to explore family and patient experiences. These were used in the six processes of intervention mapping: needs assessment, proximal programme objective matrices, theory-based

Correction

SZ Zaidi, SJ Jain, HN Nathon, *et al.* Influence of BMI on asthma control questionnaire scores. *Thorax* 2012;67(Supp2):A183. doi:10.1136/thoraxjnl-2012-202678.364

The correct list of author names should read: SZ Zaidi, SJ Jain, H Matson, HN Nathon, LH Hughes, JF Finnerty, AP Ponnuswamy, IB Benton, SS Scott.



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