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Association of electronic cigarette use with smoking habits, demographic factors, and respiratory symptoms

Linnea Hedman, Helena Backman, Caroline Stridsman, et al.
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Although electronic cigarettes (e-cigarettes) are becoming an increasingly popular smoking cessation aid, data regarding their long-term impact on health and role in smoking cessation are lacking.

In this randomised, cross-sectional study, researchers explored e-cigarette use in Sweden and associated smoking habits to understand what role they play in smoking cessation. They conducted postal questionnaire surveys in random population samples across North and West Sweden.

Of the 30,272 respondents, 12.3% were classified as current smokers, 24.4% were former smokers (i.e. stopped smoking for >1 year), 63.3% were classified as never smokers and 2.0% were identified as e-cigarette users. Dual users were the most common, with 9.8% of current smokers being classified as e-cigarette users, compared to only 1.1% of former smokers and 0.6% of never smokers.

This high prevalence of dual use suggested that e-cigarettes in Sweden were not currently encouraging smoking cessation. However, it is important to note that former smokers were only classified as such if they had stopped smoking for >1 year. As a result, some patients may have been misclassified as current smokers, potentially impacting the number of dual users recorded in this study. More research is therefore required to understand the role of e-cigarettes as smoking cessation aids before further conclusions are made.

A review of asthma care in 50 general practices in Bedfordshire, United Kingdom

Mark Levy, Fiona Garnett, Adedayo Kuku, et al.
NPJ Prim Care Respir Med 2018;28:29
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The National Review of Asthma Deaths (NRAD), published in 2014, highlighted that 90% of asthma-related deaths occurring between 2012 and 2013 were associated with poor asthma management in healthcare. This included, but was not limited to, failure to recognise asthma risk, over-prescription of short-acting beta₂-agonists (SABAs) and insufficient prescription of inhaled corticosteroid (ICS) preventer inhalers.

Based on this, the Bedfordshire Clinical Commissioning Group initiated a quality asthma audit across 50 practices in Bedfordshire between 2015 and 2016. Results demonstrated a broad variation in the care provided between these practices, including marked variation in the number of patients being provided personal action plans (ranging from 0% of patients in some practices to 98% of patients in others). Excessive prescriptions of SABAs were also recorded, with 1 in 20 patients being prescribed more than 12 SABA inhalers in the previous year.

In conducting this audit, researchers identified difficulties in gathering the information required to document patients at risk using the current systems in place. Conclusions highlighted that modifications are required to these systems to ensure patients are effectively managed and the risk of an asthma attack or related death is reduced.

Serotonergic antidepressant use and morbidity and mortality among older adults with COPD

Nicholas Vozoris, Xuesong Wang, Peter Austin, et al.
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Psychiatric disorders are common in patients affected by chronic obstructive pulmonary disease (COPD), with depression and anxiety being documented in 70–80% of COPD patients. Selective serotonin reuptake inhibitors (SSRIs) and serotonin-noradrenaline reuptake inhibitors (SNRIs) are recommended as first-line pharmacotherapy for these psychiatric disorders, with some theorising that these therapies may indirectly improve respiratory health outcomes in COPD.

In this population-based, retrospective cohort study, researchers investigated the relationship between SSRI/SNRI use and respiratory morbidity and mortality in COPD patients aged ≥66 years.

Compared with non-users, new users of SSRIs and SNRIs demonstrated modest but significantly higher rates of respiratory-related morbidity and mortality, with results demonstrating higher rates of hospitalisation, emergency department visits and mortality related to COPD and pneumonia.

Conclusions suggested that SSRIs and SNRIs may have deleterious effects on the respiratory system, which would explain the higher rates of morbidity and mortality recorded in those using SSRIs and SNRIs. Although compelling, it is important to remember that these data only represent a relationship between these factors, not cause and effect. Therefore, more research is required to understand the full relationship between psychiatric therapy use and respiratory-related morbidity and mortality in older COPD patients.

The impact of acute air pollution fluctuations on bronchiectasis pulmonary exacerbation: a case-crossover analysis

Pieter Goeminne, Bianca Cox, Simon Finch, et al.
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 doi:10.1183/13993003.02557-2017

The exact causes of pulmonary exacerbation in patients with bronchiectasis currently remains unknown. Although assumed to be primarily the result of a bacterial or viral infection, current antibiotic therapies used to treat these occurrences only have modest effects on patient outcomes. To ensure these patients are effectively managed, further understanding of the causes behind these exacerbations is required.

In this study, researchers aimed to understand the relationship between acute pollution fluctuations and the risk of pulmonary exacerbations in patients with confirmed bronchiectasis.

Results demonstrated that each 10 µg/m³ increase in PM₁₀ and NO₂ concentration produced a 4.5% and 3.2% increase in the risk of having a pulmonary exacerbation that same day. In addition, they demonstrated that the relative risk of pulmonary exacerbations in patients with bronchiectasis was significantly higher during spring and summer, when pollution exposure was at its highest.

Researchers concluded that air pollution fluctuations were significantly associated with increased exacerbation risk in bronchiectasis, and that research is required into a potential causal link between these two factors to understand this relationship further.

“Tossing a coin:” defining the excessive use of short-acting beta₂-agonists in asthma – the views of general practitioners and asthma experts in primary and secondary care

Shauna McKibben, Andy Bush, Mike Thomas, et al.
NPJ Prim Care Respir Med 2018;28:26
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The majority of UK asthma deaths are potentially preventable, a point made most recently in the NRAM ‘Why asthma still kills’, which identified high prescribing of SABAs as a contributing factor in over 40% of asthma deaths. NRAM recommended that prescribing more than one SABA per month should trigger an asthma review. Mortality and morbidity have been found to rise progressively with increasing numbers of SABAs dispensed per year, and the risk of hospital admissions is associated with the prescription of more than three SABAs per year.

McKibben and colleagues set out to identify how SABA overuse is defined and perceived by general practitioners (8), asthma experts in general practice (8) and asthma experts in hospital-based care (5).

They discovered disparity in how acceptable SABA use is defined (ranging from 100–2400 doses per year), and complacency in overuse being a marker for risk of asthma death. Some experts questioned the risk of morbidity and mortality with high SABA use, and were of the opinion that factors including low inhaled corticosteroid use, and markers of asthma attacks such as oral steroid use, hospital admissions and emergency department attendances were necessary to prompt clinical intervention. Asthma guidance was perceived not to reflect the real world, and to range from ‘silly’ to ‘stringent’.

They concluded that a more nuanced approach to managing those at risk of asthma attack is required, that there was shocking complacency about SABA overuse and that it will be difficult to reduce the number of asthma deaths unless attitudes are challenged and changed.

eosinophils per μL , there was a greater decline in lung function and increased exacerbation risk, and these patients would be more likely to benefit from continued triple therapy. For most patients, there was no impact on lung function or exacerbations.

This study provides evidence for the personalised management of patients with COPD.

Applying UK real-world primary care data to predict asthma attacks in 3776 well-characterised children: a retrospective cohort study

Steve Turner, Clare Murray, Mike Thomas, et al.
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One million children in the UK have asthma, and asthma attacks are very common, affecting 50% of these children every year. Attacks result in morbidity and mortality, and are disruptive to the child and to their parents’ economic activity. As at least one-third of healthcare expenditure on childhood asthma is spent managing asthma attacks, preventing these attacks is a priority. It is therefore surprising that there have been no studies in the UK that describe the risk factors for future asthma attacks.

This retrospective cohort study used a large ($n=3776$) dataset of routinely acquired real-world patient information to address the question ‘what factors available in primary care practice can be used to predict asthma attacks in children aged 5–12 years?’

Variables included oral corticosteroid treatment for a previous attack, current control, severity, age, sex, obesity, peak flow and blood eosinophilia. The mean age was 9.0 years, and 57% were male.

Of all the outcomes collected in this study, a previous asthma attack (and especially two attacks) was the best predictor of children who might benefit from intervention aimed at reducing their risk of future asthma attacks. Blood eosinophilia, reduced peak expiratory flow, lower respiratory tract infection and younger age were also associated with increased risk, but only weakly. Guidelines recommend that the review held in primary care within two working days of discharge from hospital includes checking inhaler technique, as well as re-examining the asthma action plan; the authors of this study suggest that further research is needed to determine if an early review after an asthma attack could reduce future asthma attacks.

Long-term triple therapy de-escalation to indacaterol/glycopyrronium in patients with chronic obstructive pulmonary disease (SUNSET): a randomized, double-blind, triple-dummy clinical trial

Kenneth Chapman, John Hurst, Stefan-Marian Frent, et al.
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 doi: 10.1164/rccm.201803-0405OC

Many patients with COPD receiving triple therapy, i.e. a long-acting beta₂-agonist (LABA) plus a long-acting muscarinic antagonist (LAMA) plus an inhaled corticosteroid (ICS), are not frequent exacerbators. There are no randomised controlled trials investigating ICS withdrawal in these patients.

This 26-week, randomised, double-blind, triple-dummy study in non-frequently exacerbating patients with moderate-to-severe COPD was the first to evaluate the safety and efficacy of the direct de-escalation of ICS from long-term triple therapy (tiotropium plus salmeterol/fluticasone) to the once-daily LABA/LAMA combination of indacaterol/glycopyrronium. The primary endpoint was non-inferiority on change from baseline to trough FEV₁; moderate or severe exacerbations were predefined secondary endpoints.

The direct change to the dual bronchodilator indacaterol/glycopyrronium led to a small decrease in lung function, with no difference in COPD exacerbations. In patients with ≥ 300 blood



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