News

Citywide smoking ban improves maternal and fetal outcomes

The influence of maternal smoking on fetal outcomes, such as preterm birth, low birth weight, etc., is well known, but the effect of smoking bans in bringing about improvements is not as well understood.

A group from Colorado, USA, conducted a "natural experiment" comparing Pueblo, a city that has maintained a public smoking ban since 2003, and El Paso, a city with no such ban. The cities had similar population, size and geography, and data from before and after the ban date were used to act as controls.

Outcomes were self-reported maternal smoking, low birth weight and preterm birth. Maternal smoking decreased as well as preterm births in Pueblo after the smoking ban, while the incidence of low birth weight remained the same.

The study shows how legislation with regards to smoking can lead to improved outcomes in health.

(Journal of Women's Health; DOI: 10.1089/jwh.2011.3305)

Irish Health Minister intends to ban smoking in parks, on beaches and in cars

The Irish Health Minister, James Reilly, has put forward plans to ban outdoor smoking in parks and on beaches in an attempt to stop children from seeing adults smoking. This follows the precedent set by New York which bans smoking in the public spaces owned by the city.

In New York, the adult smoking rate has fallen to 22%, whereas the Irish rate is 29%, a figure that Reilly says is still too high.

Anti-smoking groups have welcomed the moves, declaring them overdue.

Irish Central: http://goo.gl/hzkEM

The "weekend effect" in acute exacerbations of COPD

In the January 2012 issue of the European Respiratory Journal, an analysis of clinical data of 289,077 adults admitted to hospital in Spain with acute exacerbations in COPD.

The data showed that weekend admission was associated with a significantly higher in-hospital mortality than weekday admissions. The data were ascribed by the authors to be potentially due to staffing differences at the weekend.

In the current issue of the ERJ, a correspondence suggests an alternative explanation. COPD patients with respiratory distress at the weekend are inclined to wait until Monday to contact health services. For those with mild exacerbations, this is easily done, but those with severe exacerbations are left no choice but to contact health services at the weekend. The data would show fewer but more severely ill COPD patients admitted at the weekends and a higher number admitted on Mondays with less severe symptoms.

Indeed, the original study's data supported this; however, data on blood-gas analysis, medication and oxygen therapy were not included, so this precluded a thorough analysis.

(European Respiratory Journal; DOI: 10.1183/09031936.0003211 and 10.1183/09031936.00022612)
American and European diagnostic guidelines for CF, different but the same?

Cystic fibrosis is a disease which manifests itself in many different ways; from intestinal obstruction at birth, failure to thrive in infancy/childhood and even in older children and adults as sino-pulmonary disease and others.

The European CF Society and the US CF Foundation independently established diagnostic criteria based on different expert opinion and this resulted in differences in the application and interpretation of diagnostic tests.

A study conducted in Canada tested the concordance between the two sets of guidelines on prospective undiagnosed individuals referred to Toronto CF clinics with single-organ manifestations of CF.

208 patients were tested following the recommendations of both guidelines. The US guidelines resulted in the identification of 142 patients as “unlikely CF”, 10 with “CFTR-related disorder” and 56 with “CF”; whereas the European guidelines identified 132 patients as “unlikely CF”, 11 as “inconclusive”, 30 as “CFTR dysfunction” and 35 with “CF”. 85% of patients were diagnosed the same using the two sets of guidelines giving a statistically excellent level of agreement. One-third of the discrepant diagnoses were due to differences in the lower cutoff concentration for sweat chloride tests, while the rest were to do with differences in genotyping and nasal potential difference testing.

In conclusion, while there are discrepancies between the two sets of guidelines, the two had good-to-excellent concordance and both do well to provide guidance to promote rigorous evaluation, but neither can be regarded as the better or perfect.

(Thorax; DOI: 10.1136/thoraxjnl-2011-201454)

Allergen sensitivity and biodiversity interaction

A Finnish team have investigated the link between levels of commensal skin microbes and allergen sensitivity in an attempt to understand the link between the two.

A random sample of 118 teenagers in Finland were tested for bacterial skin flora, allergen sensitivity and contact with nature. Those subjects living in the countryside, on farms or near forests had lower levels of allergen sensitivity and more diverse skin bacteria than those living in urban areas or near bodies of water, i.e. where environmental biodiversity was lower.

This study suggests that the increasing trend in inflammatory diseases could, in part, be associated with changing climate and environmental biodiversity.

(Proceedings of the National Academy of Sciences; DOI: 10.1073/pnas.1205624109)
ERS Spirometry tent for advocacy and screening?

Every year during the European Respiratory Society Annual Congress, the European Lung Foundation and the ERS have promoted lung health by hosting a lung screening event in the host city.

A principal aim of the spirometry event was advocacy, so the event was always performed in a public space, such as railways stations or in a tent in a city square. The collected data have now been published in the European Respiratory Journal.

During the six events from 2004 to 2009 (Glasgow, Copenhagen, Berlin, Stockholm, Berlin and Vienna), 12,448 voluntary spirometry tests were performed on members of the public, alongside a questionnaire regarding smoking habits and asthma. Of the participants, 10,395 performed tests within normal quality parameters (25.5% were smokers and 5.5% were asthmatics). Of those who performed good quality tests, ~88% presented with no obstruction, –7% with GOLD stage I, –2% with stage II, –1% with stage III and –2% with stage IV+. Those presenting with abnormal spirometry were given a letter addressed to their general practitioner, suggesting further tests and follow up.

While the study didn’t aim to provide information about COPD or asthma due to its simplicity, it does provide a unique way of screening in general populations.

(European Respiratory Journal; DOI: 10.1183/09031936.00111910)

Time to treatment in asthma

Delay in treating acute exacerbations of asthma may account for difference in the effectiveness of treatment.

In a prospective observational cohort study conducted in Montreal, Canada, 406 children, aged 2 to 17 years, presenting to an emergency department were assessed for hospital admission, relapse and length of treatment.

88% of the cohort had moderate asthma and 22% had severe asthma. 50% received systemic corticosteroids early (within 60 minutes of triage), 33% had a delay before receiving them (>75 minutes) and 17% received none; and, overall, 36% were admitted to hospital. Early receipt of systemic corticosteroids reduced the odds of hospital admission and decreased the length of active treatment, compared with late administration; however, there was no significant effect on relapse.

These data suggest that early administration of systemic corticosteroids is associated with optimal effectiveness of treatment of asthma.


Lung function–quality of life link may be diagnosis dependent

Researchers examining correlations between lung function impairment and health-related quality of life (HRQoL) have shown that patients with interstitial lung disease (ILD) suffer greater impairment in HRQoL than chronic obstructive pulmonary disease (COPD) patients with a similar lung function deficit.

Although both COPD and ILD produce ventilatory impairment, their pathophysiology and progression differ. The team, based in the US, hypothesised that this would lead to different impacts on HRQoL.

Using data from 981 patients with COPD or ILD, enrolled in the Lung Tissue Research Consortium database, the researchers looked for correlations between lung function (measured as % predicted forced expiratory volume in 1 s (FEV1)) and scores on the St George’s Respiratory Questionnaire (SGRQ) and Short Form (SF)-12 physical and mental component summaries.

After adjustment for FEV1 and other confounders, ILD patients showed significantly worse SGRQ and SF-12 physical component (although not the mental component) scores.

The researchers suggest that their results may be explained by the underlying pathophysiology of the diseases: ILD patients experience lung function decline as a result of decreased lung compliance, and thus the work of breathing is increased at rest and during exertion; COPD patients, in contrast, suffer increased work of breathing primarily as a result of hyperinflation during exertion.

(Chest; DOI: 10.1378/chest.11-1332)
Lung function testing: a predictor of lung transplantation in CF patients

Flow-rates measured at different portions of the forced vital capacity are more sensitive than FEV1 in detecting airway obstruction, but there is an assumption that flow and volume are coupled. In the healthy population, this is true, but in diseased lungs, flow and volume may decline independently. This decoupling is known as airway/volume dysanapsis.

A recent study investigated the spirometry data of 93 CF patients. The patients were divided based on initial FEV1 (stratified at 80% predicted) into two groups. The group with the lower FEV1 was subdivided into those who had not had lung transplants and those who had had or were due to have them.

The group who did have lung transplantation showed a rapid decline in only FEF25–75/FVC, which became evident at about 4 years prior to transplantation, while both other groups only had moderate decrease in all lung function metrics.

The data show that, independent of age, FEV1 or FEV1 decline, dysanapsis can be used as a strong marker for estimating lung transplantation time.

(American Journal of Respiratory and Critical Care Medicine; DOI: 10.1164/rccm.201202-0272OC)

A new air pollution test to be trialled at the London 2012 Olympics

The effect of air pollution on lung health is well documented but current technology only allows for single-point air quality tests. CityScan is a new technology which will be trialled during the 2012 Olympics in London, UK. Rather than the conventional system, which gives an accurate but very local reading, CityScan uses two differential optical absorption spectrophotometers, which can measure NO2 levels in 180,000 directions across a 360-degree scan every 15 minutes. With two instruments working concurrently, a full 3D NO2 map can be generated, giving a representation of pollution levels across the whole city.

The Press Association: http://goo.gl/SDezw

European Respiratory Monograph 56: Paediatric Asthma

In his Preface to the June 2012 European Respiratory Monograph, Editor in Chief Professor Tobias Welte neatly sums up the overall objective of the Paediatric Asthma edition of the Monograph: “asthma research driven by paediatricians has produced impressive results in the past, and this will also be the case in the future. The winners [...] are the patients, as good research leads to better care with an improved quality of life.” Guest Editors of the issue, Professor Jorrit Gerritsen and Professor Kai-Håkon Carlsen, have compiled this Monograph with these objectives in mind.

As leaders in the field of paediatric asthma, Professor Gerritsen and Professor Carlsen have been able to bring together distinguished pulmonologists to provide a comprehensive review of current knowledge and future developments in paediatric asthma. This issue of the Monograph covers all aspects of paediatric asthma, from birth to the start of adulthood, and includes chapters on: asthma phenotypes; physical exercise, training and sports; food allergy and anaphylaxis; the economic burden of asthma; genetics and epigenetics; pollution; asthma treatment; and psychological factors.

As Professor Welte states, good research leads to better care. As such, this issue of the Monograph should been seen as a useful resource in daily clinical practice, and it is hoped that young pulmonologists in particular will find this a source of inspiration in their future work.

To purchase this or other issues of the Monograph, contact sales@ersj.org.uk