

Lung health under threat

Environmental health and medical experts are calling for more attention to be given to respiratory disease.

As part of the 2010 Year of the Lung activities, the Fifth Ministerial Conference on Environment and Health was held in Parma, Italy, in March.

'Unless we act NOW, one in six premature deaths worldwide will be caused by lung disease by 2020,' said Professor Nikos Siafakas, European Respiratory Society (ERS) President.

People with respiratory problems will be hit particularly hard by temperature increases and poor air quality associated with global warming, according to the ERS and the Health and Environment Alliance, leading organisations with expertise in environment and health. Recent scientific evidence shows that the risk of premature death among respiratory patients is up to six times higher than in the rest of the population for every one degree Celsius rise in temperature.

Outdoor and indoor air pollutants are other concerns. Everyone living in a city is exposed to outdoor air pollution to some extent, and even low-dose exposure can be harmful to health. The most prevalent problem for indoor air quality is still environmental tobacco smoke.

The ERS would like to see more funds allocated to research on children's respiratory health. While the impact of climate change on older people, and the particularly serious effects on people with respiratory diseases, are known, no similar research has been done for the impact on children. Such research is urgently needed because children absorb proportionately more than adults from each breath they take.

High frequency oscillation for ARDS

A systematic review and meta-analysis has supported the use of high frequency oscillation (HFO) rather than conventional mechanical ventilation (CMV) for patients with acute lung injury/acute respiratory distress syndrome (ARDS). The analysis, published in the *BMJ*, included eight trials (419 adults or children with ARDS). HFO improved oxygenation by 24%, 16%, and 17% at 24, 48, and 72 hours compared with CMV. Hospital (or 30 day) mortality was reduced by 23% and treatment failure by 33%. Compared with CMV, HFO reduced mortality and treatment failure rates and improved oxygenation. Editorialists advise caution in the adoption of HFO until more evidence is available.

Global burden of RSV infection in young children

Globally the three most common causes of fatal acute lower respiratory tract infection (ALRI) in children less than 5 years old are *Streptococcus pneumoniae*, *Haemophilus influenzae* type b, and respiratory syncytial virus (RSV). A systematic review and meta-analysis published

in the *Lancet* has provided RSV data for 2005. The data were taken from 36 studies: 29 population-based (10 unpublished) and 7 based on hospital or laboratory data. In 2005 it is estimated that there were 33.8 million new RSV-associated ALRI episodes in children <5 years old, most of them infants. This represented 22% of all such episodes of ALRI. At least 3.4 million episodes were severe and between 66 000 and 199 000 were fatal. Around 99% of these deaths occurred in developing countries. RSV is the only one of the three main causes of fatal ALRI in this age group for which there is no vaccine. RSV infections are increasing worldwide and the increase mainly affects developing countries.

Women and tobacco

Women account for 20% of the 1 billion plus smokers in the world. Tobacco increases the risk of some female-specific cancers. Tobacco advertising also increasingly targets women and girls. In August, an article in the *Bulletin of the World Health Organization* highlighted the importance of gender when formulating and implementing tobacco control policies.

WHO grants prequalification status to pneumococcal vaccine

The World Health Organization has granted prequalification status to Pfizer Inc.'s children's pneumococcal vaccine, Prevenar 13, paving the way for United Nations agencies and governments to start ordering the product.

The WHO decision comes after Pfizer in March entered 'into a 10-year Provisional Supply Agreement to provide Prevenar 13 to infants and young children in the world's poorest countries under the terms of the Advance Market Commitment (AMC) for pneumococcal disease, an innovative program piloted by the GAVI Alliance,' according to a Pfizer press release. A vaccine must be prequalified by WHO in order to be included in the AMC.

This version of the vaccine, which protects against 13 different disease-causing strains, is an advanced version of the original Prevenar, which only protected against 7 strains. The vaccine has already been approved in over 60 countries, including the US and the European Union.

The WHO prequalification allows for the procurement of Prevenar 13 by United Nations agencies, including the United Nations Children's Fund (UNICEF), governments, and other organisations for use in national immunisation programmes.

'WHO prequalification of Prevenar 13 is an important step towards universal access to pneumococcal conjugate vaccines for infants and young children worldwide,' Orin Levine, executive director of the International Vaccine Access Center at the Johns Hopkins Bloomberg School of Public Health, said. 'Under the AMC, pneumococcal conjugate vaccines can be made available to the highest risk children in the world faster than ever before.'