



Supportive Environments for Healthy Communities

Issue 78 November 9, 2012 | Focus on World Pneumonia Day 2012

World Pneumonia Day 2012 is November 12. Pneumonia is a form of acute respiratory infection that affects the lungs. According to the World Health Organization, pneumonia is the single largest cause of death in children worldwide. Every year, it kills an estimated 1.4 million children under the age of five, accounting for 18 percent of all deaths of children under five years old worldwide. This issue of the WASHplus Weekly contains resources on environmental risk factors that increase a child's susceptibility to pneumonia. These include: indoor air pollution caused by cooking and heating with biomass fuels (such as wood or dung); living in crowded homes; and parental smoking. Also included are recent resources on hand washing, ventilation, and other techniques to prevent pneumonia.

Next week's issue of the Weekly will contain relevant reports and resources for **World Toilet Day** (Nov. 19) so please contact WASHplus if you or your organization has recent resources or research related to sanitation that could be featured.

FACT SHEETS/WEBSITES

- **Pneumonia: Fact Sheet Number 331**, 2012. World Health Organization. ([Full text](#))

Highlighting key facts about pneumonia and its causes, this website provides information on the symptoms, treatment, prevention, economic costs, and WHO response to the disease.

- **World Pneumonia Day**. ([Website](#))

Established in 2009, World Pneumonia Day is marked every year on November 12 to raise awareness about pneumonia, the world's leading killer of children under the age of five; promote interventions to protect against, prevent, and treat pneumonia; and generate action to combat pneumonia.

GENERAL/OVERVIEW

- **Call to Action on World Pneumonia Day**. *Emerg Infect Dis*, Nov 2012. R Hajjeh. ([Full text, pdf](#))

Pneumonia is a critical disease for countries to conquer in order to reach Millennium Development Goal 4: reducing the child mortality rate by two-thirds from 1990 to 2015. Most children who die from pneumonia live in developing countries where such factors as malnutrition, crowding, and lack of access to quality health care increase the risk for death.

- **Evaluation of Risk Factors for Severe Pneumonia in Children: The Pneumonia Etiology Research for Child Health (PERCH) Study.** *Clin Infect Dis* 54(2) 2012. C Wonodi. ([Full text, pdf](#))

The depth of the evaluation of multiple risk factors across the breadth of the PERCH sites should furnish new and valuable information about the major risk factors for childhood severe and very severe pneumonia, including risk factors for pneumonia caused by specific etiologies in developing countries.

- **Fight Pneumonia: Save a Child**, 2011. Global Coalition Against Child Pneumonia. ([Full text, pdf](#))

Pneumonia deaths could be reduced by two-thirds if existing interventions to protect against, prevent, and treat pneumonia are scaled up to reach 90 percent of the world's children. This document summarizes the coalition's approach to achieving this goal under the banner of World Pneumonia Day.

- **Integrated Management of Childhood Illness: Caring for Newborns and Children in the Community**, 2011. World Health Organization. ([Full text](#))

These materials are designed to help lay community health workers (CHW) assess and treat sick children age 2–59 months. In this process, also known as "Community Case Management" the CHW: identifies and refers children with danger signs; treats (or refers) pneumonia, diarrhea, and fever; identifies and refers children with severe malnutrition to a health facility; refers children with other problems that need medical attention; and advises on home care for all sick children.

- **Integrating Pneumonia Prevention and Treatment Interventions with Immunization Services in Resource-Poor Countries.** *Bull World Health Organ.* Apr 2012. A Cohen. ([Full text](#))

Integration of routine immunization strategies with pneumonia prevention and control efforts could be combined with diarrheal control strategies—administration of rotavirus vaccine, home water treatment, and use of oral rehydration solution—to achieve a greater impact on childhood mortality.

- **Pneumonia and Diarrhoea: Tackling the Deadliest Diseases for the World's Poorest Children**, 2012. UNICEF. ([Full text, pdf](#))

Pneumonia and diarrhea have long been regarded as diseases of poverty and are closely associated with factors such as poor home environments, under nutrition, and lack of access to essential services. An integrated approach to tackle these two killers is essential, as many interventions for pneumonia and diarrhea are identical and could

save countless children's lives when delivered in a coordinated manner.

PNEUMONIA PREVENTION

- **Cooking Fuel Type, Household Ventilation, and the Risk of Acute Lower Respiratory Illness in Urban Bangladeshi Children: A Longitudinal Study.**

Indoor Air, Apr 2012. E Murray. ([Abstract](#))

This study represents an important finding of a modifiable risk factor that might decrease the burden of respiratory illness among children living in Bangladesh and other low-income settings. It found that the existence of at least two windows in a child's sleeping room was associated with a 25 percent decrease in acute lower respiratory illnesses. Increasing available natural ventilation within the household in similar settings has the potential to reduce childhood mortality associated with acute lower respiratory illnesses.

- **Effect of Reduction in Household Air Pollution on Childhood Pneumonia in Guatemala (RESPIRE): A Randomised Controlled Trial.** *Lancet, Nov 2011.* K Smith. ([Full text, pdf](#))

In a population heavily exposed to wood smoke from cooking, a reduction in exposure achieved with chimney stoves did not significantly reduce physician-diagnosed pneumonia for children younger than 18 months. The significant reduction of a third in severe pneumonia, however, if confirmed, could have important implications for reduction of child mortality. The findings suggest that stove or fuel interventions producing lower average exposures than chimney stoves might be needed to substantially reduce pneumonia in populations heavily exposed to biomass fuel air pollution.

- **What Can Hand Hygiene Do for the World?** 2012. K Greenland, London School of Hygiene and Tropical Medicine, WC1E 7HT, London, United Kingdom. ([Full text, pdf](#))

Hand washing with soap is regarded as one of the most cost-effective interventions to improve public health. The latest estimates of the global causes of child mortality attribute 0.751 million deaths among children aged 1 to 59 months a year to diarrhea and 1.071 million to pneumonia. Reviews of epidemiological studies suggest that universal practice of hand washing with soap could reduce the risk of severe diarrhea by 48 percent and the risk of any diarrhea by 47 percent. A further review, updated by the authors to include findings from a subsequent study concludes that hand washing with soap could reduce the risk of lower respiratory tract infections like pneumonia by up to 23 percent.

ENVIRONMENTAL RISK FACTORS

- **Residential Crowding and Severe Respiratory Syncytial Virus Disease Among Infants and Young Children: A Systematic Literature Review.** *BMC Infectious Diseases, Apr 2012.* A Colosia. ([Full text](#))

Residential crowding was associated with an increased risk of laboratory-confirmed

Respiratory Syncytial Virus Disease hospitalization among high-risk infants and young children. This association was consistent despite differences in definitions of residential crowding, populations, or geographic locations.

- **Respiratory Health Effects of Air Pollution: Update on Biomass Smoke and Traffic Pollution.** *Clin Rev Allergy and Immun, Jan 2012.* R Laumbach. ([Full-text, pdf](#))

Mounting evidence suggests that air pollution contributes to the large global burden of respiratory and allergic diseases, including asthma, chronic obstructive pulmonary disease, pneumonia, and possibly tuberculosis. Although associations between air pollution and respiratory disease are complex, recent epidemiologic studies have led to an increased recognition of the emerging importance of traffic-related air pollution in both developed and less-developed countries, as well as the continued importance of emissions from domestic fires burning biomass fuels, primarily in the less-developed world.

- **Urban Air Pollutants Are Significant Risk Factors for Asthma and Pneumonia in Children: The Influence of Location on the Measurement of Pollutants.** *Arch Bronconeumo, Nov 2012.* S Vieira. ([Full text, pdf](#))

This study was designed to evaluate the role of outdoor, indoor, and personal exposure to combustion-related pollutants nitrogen dioxide and ozone on respiratory health of children in a nonaffluent urban area of São Paulo, Brazil. Exposure to higher levels of both pollutants was associated with increased risk for asthma and pneumonia in children.

- **Use of Biomass Fuel and Acute Respiratory Infections in Rural Pakistan.** *Public Health, Oct 2012.* N Janjua. ([Abstract](#))

This study evaluated the association between the use of biomass fuel and acute respiratory infection (ARI) episodes in children under five years old in Pakistan. The incidence of ARI was seven episodes/child/year. In the adjusted model, the incidence of ARI was higher in children living in houses where biomass fuel was used and who accompanied their mothers while cooking compared with children living in houses where fossil fuel was used and who did not accompany their mothers.

OTHER PNEUMONIA STUDIES

- **The Cost of Outpatient Pneumonia in Children <5 years of Age in Fiji.** *Trop Med Int Health, Feb 2012.* B Temple. ([Abstract](#))

Pneumonia is the most common reason for visiting an outpatient facility among children under five years old in Fiji. The objective of this study is to describe for the first time the costs associated with an episode of outpatient pneumonia in Fiji, in terms of cost both to the government health sector and to the household. The overall average societal cost associated with an episode of outpatient pneumonia was US\$18.98. A single episode of outpatient pneumonia represents a significant cost both

to the government health sector and to affected households.

- **Household Costs for Treatment of Severe Pneumonia in Pakistan.** *Am Jnl Trop Med Hyg, Nov 2012.* S Sadruddin. ([Full text](#))

Current World Health Organization (WHO) guidelines for severe pneumonia treatment of under-five children recommend hospital referral. However, high treatment cost is a major barrier for communities. This study compared household costs for referred cases with management by lady health workers (LHWs) using oral antibiotics.

Each WASHplus Weekly highlights topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus knowledge resources specialist, at dacampbell@fhi360.org.



About WASHplus - WASHplus, a five-year project funded through USAID's Bureau for Global Health, creates supportive environments for healthy households and communities by delivering high-impact interventions in water, sanitation, hygiene (WASH) and indoor air pollution (IAP). WASHplus uses proven, at-scale interventions to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit www.washplus.org or email: contact@washplus.org.

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