

## Fight Against Pneumonia

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**R**ecently, WHO has decided to launch an annual “World Pneumonia Day” on November 2, 2009(1). The day will mobilize efforts to fight pneumonia, rightly called a ‘neglected’ or a ‘forgotten’ disease, that kills more than two million children under the age of five each year worldwide(2). The sudden shift of focus on pneumonia has raised many eyebrows and brought forward few issues that need clarification:

1. Is pneumonia indeed as serious a threat as depicted by international health agencies? Does it really deserve so much of attention and media galore?
2. What prompted WHO to turn its attention now on pneumonia after sidelining it for so long?

### Is PNEUMONIA A SERIOUS THREAT?

World over, pneumonia kills more children than any other illness—AIDS, malaria and measles combined and accounts for nearly 1 out of 5 under five deaths in children(2). About 156 million new episodes occur each year worldwide, of which 151 million episodes are in the developing world. Of all community cases, 7–13% are severe enough to be life-threatening and require hospitalization(3). In India also, 410,000 children under 5 years of age die of pneumonia each year. *Streptococcus pneumoniae*, *Haemophilus influenzae* and Respiratory Syncytial virus (RSV) are the main pathogens associated with childhood pneumonia(3). These data are sufficient enough to merit a serious fight against pneumonia on a worldwide basis.

### WHY SUDDEN FOCUS ON PNEUMONIA?

Though WHO had envisaged pneumonia prevention and control in its ambitious Integrated Management of Childhood Illness (IMCI) program which is being adopted by many countries, its efforts lacked the urgency and intensity that were needed to take on pneumonia. It simply failed to launch a frontal attack against the disease. Why WHO has decided now to launch a massive drive against this ancient disease? There could be many reasons-pertaining to both science and commerce.

First the obvious reason to which we all must agree, is that the progress in the fight against pneumonia needs to be accelerated if child health goals envisaged in the Millennium Development Goals (MDG) 4 – to reduce under-5 mortality by two-thirds by 2015 – are to be achieved. It is argued that the real motive behind the invigorated interest in pneumonia is an attempt to push up the sales of pneumonia vaccines. The developing world offers a huge market for these vaccines, and the manufacturers are obviously interested.

### HOW TO TACKLE PNEUMONIA?

Pneumonia is not a specific entity but a syndromic illness, caused by many infectious agents, and sometimes even by non-infectious processes. Many respiratory illnesses mimic pneumonia in their clinical presentation. Formulating flawless robust clinical diagnostic criteria, especially for the community-level health workers is a very daunting task. The existing WHO age-specific criteria based on respiratory rates are also quite non-specific. Furthermore, the exact epidemiological data on

prevalence of different major pathogens are lacking in majority of low and middle income-group (LMI) countries, including India. For example, even RSV is not a lesser threat than *Streptococcus pneumoniae* as far as disease burden is concerned and newer bacteria like *Klebsiella pneumoniae* are more frequently incriminated. Other major barriers to achieve effective control are lack of availability of health facility at peripheral level, failure of health workers to recognize the danger signs of the disease, and failure to treat a case with appropriate antibiotics. Access to treatment is lacking, due to a shortage of primary care facilities and providers of care – the vast majority of the children who die of pneumonia die at home without treatment.

The strategies to control and prevent pneumonia are well-defined(2). Effective management of a case is as important as prevention of the disease. Vaccination against pathogens responsible for the disease is only one aspect of preventive strategy, which includes improving nutrition and reducing other risk factors like air pollution, smoking, unhygienic practices, etc. Since vaccines against many pathogens are not yet fully utilized (measles and pertussis), or not yet available (RSV, staphylococcal, gram negative pathogens), or not effective due to serotype mismatch (*pneumococcus*), the proper management of a case still remains the cornerstone of pneumonia control, especially in LMI countries. Hence, to have a credible global strategy to fight this killer, we need to attack pneumonia from both sides – vaccines to prevent and antibiotics to treat. Till we have access to effective vaccines, this ‘window period’ can be utilized to turn our focus on creating awareness amongst masses about the burden of pneumonia disease, its impact on childhood mortality, simple preventive measures such as hand washing, persistence with exclusive breastfeeding, avoidance of diluted animal milk, and healthy nutritious diet, etc. Devising more specific clinical criteria to diagnose pneumonia at community level, training /educating health workers on proper case management, establishing a disease

tracking system, preferably a ‘molecular surveillance’ to keep track of prevailing bacterial serotypes, bolstering our decades-old diagnostic methods with newer diagnostic techniques to make etiological diagnosis, accelerating the development of other vaccine products such as RSV with newer ADIPs (accelerated development and introduction plans) are few other initiatives that can be sincerely acted upon.

IAP can play a major role by adopting pneumonia control in its ‘Action Plan’. It can act at different levels of pneumonia control strategy- with launch of district based awareness campaigns through its district branches, organizing ‘national consultative meets’ to have uniform diagnostic and management guidelines, initiating pilots in collaboration with international health institutions at key centers on compiling epidemiological data, and advising government on the best vaccination strategy to prevent the disease. The Academy has already taken up a great initiative in reducing neonatal mortality through nation-wide introduction of Neonatal Resuscitation Program. By targeting pneumonia it can ensure that the major part of the spectrum of diseases responsible for under-five mortality is taken care of.

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## REFERENCES

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