

**PNEUMONIA TREATMENT**

# Clearing Children's Lungs



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Globally, pneumonia claimed the lives of more than nine lakh under-5 children in 2015. Of these deaths, about 1.8 lakh occurred in India. Pneumonia spreads easily through contact with droplets from a cough or sneeze and can cause massive suffering and loss of life.

Pneumonia also exacts a major economic burden. First, pneumonia treatment often involves antibiotics. The misuse of antibiotics can accelerate the development of resistance by bacteria, thus diminishing the effectiveness of antibiotics. This forces doctors to use more expensive and less effective second- and third-line antibiotics, driving up treatment costs over time. This, in turn, impacts the cost and effectiveness of not only pneumonia treatment, but all antibiotic treatments.

Second, pneumonia leads children to miss days of school, achieve less total education, and retain less while at school. This translates in the long term to lower earnings, stalled career achievement and less productive contributions in the workplace. Parents and caregivers are also less productive as they care for the sick child. While the death of a child is a tragedy unto itself, it also takes an economic toll by wiping out an entire lifetime's worth of education and productivity.

Third, even when a child survives pneumonia, the disease can weaken their immune system and put them at greater risk of other diseases later in life. These effects have related impacts on treatment costs, education, productivity and more. Pneumonia's true burden, therefore, is not limited to costs

that are directly pneumonia-related.

The bottom line is that pneumonia reduces economic productivity in nations where the disease's burden is highest — India included.

But a silver lining in all of this is that we have the knowledge and tools to prevent and treat pneumonia. An integrated approach — to protect, prevent and treat children — can make a world of difference. Protect children's health by ensuring exclusive breastfeeding for the first six months and improving nutrition. Prevent disease through immunisation and reducing indoor air pollution. Treat disease by improving access to and appropriate use of treatment.

One of the most important ways to prevent pneumonia is through vaccination against pneumococcus, a bacterium that is a leading cause of severe pneumonia. The benefits of vaccination with pneumococcal conjugate vaccines (PCV) extend beyond those who are vaccinated. PCV reduces the likelihood of developing pneumonia and other illnesses caused by pneumococcus, including mild infections of the ear or throat and serious illnesses like meningitis or infections of the blood.

But other people who come into con-

tact with vaccinated children also benefit through 'herd protection'. When children are vaccinated, they are less likely to spread the pathogens that cause pneumonia to others. Such herd protection has been repeatedly found to benefit other children, including those who are unable to be vaccinated, adults with chronic disease, and the elderly who are all also at risk of disease. Herd protection multiplies the benefits of vaccination.

PCV is more expensive than many other routine vaccines, including those against polio, measles and Hepatitis B, which have been available for decades. But a society that values health and economic well-being should assess PCV's expense in relation to its broad health and economic benefits. In that light, though vaccination is costly, not vaccinating is even more so.

India recently introduced a PCV into its Universal Immunisation Programme in Himachal Pradesh and parts of Bihar and Uttar Pradesh. This will hopefully be expanded to the rest of India soon. For this, Prime Minister Narendra Modi, health minister J P Nadda, and every health worker administering these vaccines should be commended.

This rollout is an excellent opportunity not only to protect the health of our children but also to determine the true economic benefits of vaccination with PCV. Researchers should seize this opportunity to measure the vaccine's economic effects to provide a solid evidence base for further expanding the vaccine within and beyond India.

Introducing PCV has demonstrated India's determination in protecting the health and wealth of the country's youngest generation. Driving this momentum forward will help protect and promote India's health and economy for future generations.

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**Every breath they take**