

OP-ED: Fighting to breathe Data for Impact and Research for Decisions Makers

Pneumonia in children is preventable and curable. Then why does it still take so many lives?

Close your eyes and try not breathe for some time. Feel what your lung is feeling. How it is craving for a little bit of air. This is how it feels when one is going through pneumonia, and is fighting to breathe. Now open your eyes and read the rest of this article.

The 2017-18 Bangladesh Demographic and Health Survey (BDHS) identifies pneumonia as being the country's largest killer among children less than five years, and was responsible for about 18% of all deaths in this age group. This means, every year, pneumonia takes the lives of 24,300 children in Bangladesh; that is, around three deaths per hour. The most unfortunate thing about these deaths is that the majority are preventable and curable.

An action plan:

In the Global Action Plan for Pneumonia and Diarrhoea: Protect, Prevent, and Treat Strategy, the World Health Organization (WHO) set the target to end preventable childhood deaths due to pneumonia by 2025 through strengthening protection, prevention, and treatment. We can protect children from pneumonia through better feeding and higher coverage of vitamin A supplementation.

In this context, Bangladesh is doing better. We prevent childhood pneumonia mainly through vaccines. Bangladesh introduced the Hib vaccine in 2009, and then the Pentavalent vaccine, which includes pneumonia specific PCV, Hib, and pertussis components, in 2013.

In 2018/19, the national coverage of 3-doses of the Pentavalent vaccine was over 90%, which is indeed a very remarkable success of the government. In addition to vaccination, we can prevent childhood pneumonia by regular handwashing, usage of safe drinking water, reducing household air pollution, and by maintaining a low prevalence of HIV.

Regarding treatment of pneumonia, we want pneumonia cases to be identified early, seeking care from trained providers, and receiving the appropriate treatment. Most children with pneumonia are, and should be, managed from an out-patient health facility. Most will be given antibiotics and other medications, and advice about care at home, and recover subsequently.

A small proportion of children with pneumonia, however, will develop complications and will require immediate hospitalization for advanced care. These are the cases at the highest risk of dying if not managed early and well in a hospital setting.

Death by numbers

Where are child deaths from pneumonia occurring? 45% percent of the pneumonia-related deaths among children occur in health facilities, which should be unacceptable in this day and age -- we should have the tools and expertise to manage childhood pneumonia in all of our health facilities.

Around 52% of pneumonia-related deaths happen at home, which exposes a fundamental flaw in the reach of our health systems. On the other hand, 3% of pneumonia-related deaths occur at home after receiving care from formal health systems.

To reduce death, illness, and disability, and to promote improved growth and development of children under five years of age, the WHO and the United Nations Children's Fund (Unicef) have

promoted the Integrated Management of Childhood Illness (IMCI) strategy since the mid-1990s. In Bangladesh, with IMCI in place since 1996, why are children still dying from preventable causes such as pneumonia? Data from the 2017 BDHS shows that only 42% of children under five years, with signs of lung infection, were taken to a formal health provider.

We must thus address the problem that most children with pneumonia are not seeking on time care from appropriate service providers. Another key question to consider is whether health facilities in Bangladesh are ready to provide appropriate treatment for childhood pneumonia.

Based on the 2017 Bangladesh Health Facility Survey (BHFS), only 5% of the health facilities in Bangladesh have comprehensive readiness for providing curative care. With such low levels of readiness, it is not possible to provide appropriate care for children hospitalized with pneumonia.

A key reason to refer children with pneumonia to a hospital is to provide them with oxygen, if needed. The current out-patient guidelines and tools have no way of directly assessing whether a particular child with pneumonia needs oxygen and will benefit from such care. Hypoxaemia, meaning low oxygen saturation in the blood, is one of the strongest predictors of mortality among children with pneumonia.

Early detection of hypoxaemia and immediate treatment with oxygen therapy are the key strategies to prevent hypoxaemia-related deaths. A pulse oximeter is a simple and relatively inexpensive device, with which the oxygen saturation level of the blood, or pulse oximetry, can be measured instantly.

Unfortunately, the 2017 BHFS reported that only 6% of the health facilities designated to provide IMCI services had pulse oximeters. The national survey also shows that one-third of the district hospitals of Bangladesh did not have any of the four possible sources of oxygen: Oxygen concentrator, filled oxygen cylinder with/without flow meter, and an oxygen distribution system. During the initial days of the Covid-19 pandemic in Bangladesh, a quick assessment showed that almost 82% of paediatric wards did not have available oxygen. With such low levels of readiness, how can we expect to effectively manage and treat severe pneumonia?

We know how to save them

We know what kills our children and we also know how we can save them. Antibiotics are a key tool in our war against pneumonia. We are expected to give an antibiotic to every child that we diagnose as having pneumonia.

Giving an antibiotic presumes that the child has a bacterial infection or is likely to get one. However, we have no routine data from our hospitals on the bacteria that are causing illness among these children with pneumonia, and to which antibiotics they are susceptible. There are plenty of studies that show that antibiotic resistance patterns change over time. However, without routine hospital-based microbiological surveillance, we shall remain blind in understanding whether changes in antibiotics are needed to treat pneumonia most effectively.

We must strengthen our in-patient care involving effective triage and standard operating procedures to ensure that sick children receive the right treatments on time. Most importantly, we need to keep in mind that, to provide effective health care, one must care about the well-being of each and every patient.

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