



# Pneumonia: The forgotten killer of children

Dr Sultan Md Shamsuzzaman, Director, DGHS & Line Director, Maternal Neonatal Child and Adolescent Health (MNCAL), Directorate General of Health Services (DGHS)



The Government is providing routine immunisation services across the country, and the country is having consistently good coverage of vaccines. The IMCI programme for the management of sick children including pneumonia is operating all over the country. To accelerate pneumonia control with a combination of interventions to protect, prevent and treat pneumonia in children, we are coordinating our efforts with DGFP, NNS, CBHC (community Clinic) and other stakeholders. We hope to achieve the SDG goal 3 by 2030.

Prof. Dr Md. Shahidullah, President, Bangladesh Pediatric Association (BPA); Chairperson, National Technical Working Committee for Newborn Health (NTWC-NBH)



Pneumonia is the forgotten killer because, historically, it has received little attention despite its fatal role. I am glad that a roundtable is being organised to discuss pneumonia.

Pneumonia is a form of acute respiratory infection that affects the lungs caused by some infectious agents - bacteria, viruses, fungi etc. It is the single largest infectious cause of death accounting for 16 percent of all deaths of under five in 2017. Pneumonia is most prevalent in South Asia and Sub-Saharan Africa.

Pneumonia can be prevented by using simple interventions, treated with low cost, low medication and care.

The major risk factors of pneumonia are malnutrition or undernourishment, especially in infants who are not exclusively breastfed; environmental factors such as indoor air pollution, living in crowded homes, parental smoking, and pre-existing illnesses such as symptomatic HIV infections and measles. In 2009, WHO and UNICEF launched the Global Action Plan for Pneumonia and Diarrhoea (GAPPD). The Protect, Prevent and Treat framework of GAPPD for pneumonia interventions refers to establishing good health practices from birth, such as exclusive breastfeeding for 6 months, adequate complementary feeding and Vitamin A supplementation to protect children from pneumonia. The prevention measure includes vaccines (Measles, Hib, PCV), handwashing with soap, safe drinking water and sanitation and reduction of household air pollution. Children who are ill from pneumonia needs appropriate treatment which includes improved care seeking and referral case management at the health facility and community level, supplies of antibiotics, oxygen and continued feeding (including breastfeeding).

Targets set by GAPPD indicate that by 2025, pneumonia mortality among children below 5 years of age must be brought down to 3 deaths per 1000 live births, which now stands at 6 per 1000 live birth in Bangladesh. It is not an easy task.

We have already achieved the GAPPD targets for immunisation coverage of Hib, DPT3 and PCV3. However, we need to improve in exclusive breastfeeding of children aged 0-5 months, care-seeking for pneumonia and antibiotic treatment for suspected pneumonia. However, we need to understand better about our current status of access to clean and safe fuel used for cooking in the household.

There have been some documented reductions of pneumonia morbidity and mortality rates by selective interventions. Exclusive breastfeeding for 6 months results in a 23% reduction in pneumonia incidence. There is 15.1 times greater risk of death from pneumonia if not breastfed in first 6 months. Adequate complementary feeding among children 6-23 months, including adequate micronutrient intake reduce all child deaths, including from pneumonia and diarrhea, by 6%.

Vitamin A supplementation lowers overall child mortality by 23 percent. Hepatitis B vaccine reduces radiologically confirmed pneumonia by 18 percent, while PCV decreases incidents of radiological pneumonia by 23-35%.

Reduction in Household Air Pollution (HAP) through lower emission stoves and clean fuels reduces severe pneumonia by 33%.

Regarding health facilities, if the standard operating procedures are followed and pneumonia cases are managed according to protocol, a 90% reduction in pneumonia may be achieved. Increasing access to appropriate care through community-based case management may result in a 35% reduction in childhood pneumonia mortality rates and 40-70% reduction in neonatal deaths.

In Bangladesh, pneumonia took the lives of around 17,000 children under the age of 5 in 2016. Two children die every hour in our country due to pneumonia. Overall child death (under 5 years) rate has declined steeply but the reduction in child mortality due to pneumonia has not had a similar



*Save the Children, Unicef and the Ministry of Health and Family Welfare jointly organised a roundtable on the occasion of World Pneumonia Day 2018 (November 12, 2018). The discussion was represented by DGHS, NNHP & IMCI, EPI, IPHN, CBHC, DGFP, Unicef, other relevant professional and research organisations, NGOs, journalists, and others. The objective of the discussion was to renew focus on Pneumonia as one of the major killers of under-five children. Here we publish a summary of the discussion.*

result. Newborn babies usually get more attention in the treatment procedure, but we must concentrate on other ages as well. Three per 1000 live births is the target pneumonia death rate under five by 2025 as envisaged under the Global Action Plan for Pneumonia & Diarrhoea (GAPPD).

When it comes to health facilities, excluding community clinics, this is where we stand: IMCI guidelines are present in 56% of the facilities while IMCI trained staff are available in 54%; thermometers are available in 88% of the places; availability of growth charts (50%), oral rehydration therapy (58%), amoxicillin (79%) and paracetamol (83%).

Management of childhood Acute Respiratory Infections (ARI) is crucial. Only 42% of all pneumonia patients sought treatment from a health facility or provider. Pharmacists are visited by 26% while 25% visit the traditional doctor. Only 30% receive antibiotics, and care-seeking patients are numbered at 46%. One-third of our children are underweight and numerous factors stunt their growth. Places of hand-washing are available, but the availability of soap and water is now at 29%. Improved sanitary facilities are at 45% while access to improved source of drinking water is at 98%.

To protect children under 5 from pneumonia, we have to increase coordination and investment in interventions that include nutrition, WASH practices, and reduction of household air pollution. All children should have access to life-saving vaccines that prevent pneumonia. They should also have equitable access to quality health and nutrition services for diagnosis and treatment of pneumonia.

Dr Md Jahurul Islam, Deputy Program Manager, National Newborn Health Program (NNHP) & IMCI, DGHS



We are on the right track in achieving the SDG goal. Alongside taking action for the reduction of morbidity and mortality rates, we need to focus on creating social awareness about pneumonia through various platforms. We are

emphasizing on community case management, strengthening of the IMCI program, improvement in monitoring and supervision and above all coordination with different stakeholders for an integrated approach.

Dr Rezaur Rahman Khan, Program Manager-EPI, DGHS



We started PCV in 2015. The vaccine coverage evaluation survey shows satisfactory results although there are little variation in coverage in some divisions and also the challenge to reach some children of hard to reach areas. However, we

have a micro-plan through which we can reach these children.

Dr. SM Mustafizur Rahman, Program Manager-1, National Nutrition Services (NNS), Institute of Public Health Nutrition (IPHN)



National Nutrition Services (NNS) is leading the nutrition services in Bangladesh in collaboration with UN bodies, international non-governmental organisations (INGOs), civil societies and others.

Nutrition is a multi-sectoral issue. Currently, 23 ministries are directly or indirectly involved with the nutrition services.

We need to ensure that the minimum acceptable diet should be provided to a child, along with appropriate hygiene practice. At

the implementation level nutrition is an integral part of the IMCI programme. We are working to ensure adequate nutrition starting from the pregnancy, continuing through the post-partum period, while also focusing on increased breastfeeding and child nutrition.

Dr Farid Uddin Ahmed, Deputy Director (Services) and Programme Manager (Newborn and Child Health), Directorate General of Family Planning (DGFP)



We are training our health workers on community-based management of sick children, including pneumonia and diarrhea management. This training enables the workers to identify and manage according to protocol and refer sick children to health facilities if needed. We are also recruiting volunteers for hard to reach areas and strengthening the supervision and monitoring mechanism in all the districts.

Dr Tanvir Ahmed Chowdhury, Programme Manager, Community Based Health Care (CBHC), DGHS



Community clinics is a flagship programme of the government. There are approximately 13,707 community clinics around the country. Community Health Care Providers (CHCP) of community clinic provides services of Integrated Management of Childhood Illness (IMCI), which covers pneumonia.

We are also conducting a pilot project in 19 Upazilas. Under this initiative, each clinic will have five multipurpose health volunteers. These volunteers can contribute to strengthening IMCI program including pneumonia management.

## RECOMMENDATIONS

➤ **Revitalise Pneumonia Coalition (IMCI working group) to engage stakeholders under the lead of MOHFW.**

➤ **Improve access to services for pneumonia management**

- **Procurement and make available of essential lifesaving commodities including Amoxicillin DT, timer, Oxygen for pneumonia management and more efficient management of the existing supply chain.**
- **Strengthen IMCI service delivery with the availability of the trained providers, job aid and communication materials.**
- **Incorporation of CCM of pneumonia programme in community clinics and Union Health and Family Welfare Centers.**

➤ **Improve appropriate, timely referral and management of severe pneumonia case at the facility with the standard protocol.**

➤ **Include PCV in the EPI Coverage Evaluation Survey and escalate support to Sylhet and Chittagong divisions to improve immunisation coverage.**

➤ **The gradual increase in Government budget to mitigate transitional withdrawal of GAVI support for vaccine procurement as mentioned in the sector plan.**

➤ **Government at all levels to reduce vulnerability to pneumonia by promoting healthy nutrition, exclusive breastfeeding, complementary feeding, hand washing, safe drinking water and sanitation, addressing indoor air pollution, as well as promoting prompt care seeking behaviour.**

➤ **Strengthen multi-sectoral coordination to reduce stunting and wasting levels among children.**

➤ **Implement findings of the research, such as the recently completed Pneumonia Situation analysis and operation research on Enhance Management of Pneumonia in Community (EMPIC) conducted by Save the Children with UNICEF, WHO.**

➤ **Undertake new research, demonstrate proven evidence-based service delivery within existing health system to generate evidence that can contribute to the reduction of pneumonia death of children in Bangladesh context.**

Dr Morseda Chowdhury, Associate Director, BRAC



BRAC is providing primary healthcare services in the community to complement the government efforts. Currently, we have approximately 50,000 community health volunteers and 5,000 health workers working

across the country.

At the treatment level, our health workers visit all the households with children under the age of five once every month. They facilitate the management of sick children including Pneumonia through early identification, management following protocol and referral to government facilities if needed.

Professor Dr. MAK Azad Chowdhury, Department of Neonatology, Dhaka Shishu Hospital & Secretary General, Bangladesh Pediatric Association (BPA)



We as a professional organization work closely with Ministry and provide necessary technical guidance as and when needed. Apart from providing treatment, if professional associations like Bangladesh Pediatric Association can play a

useful role in creating awareness for pneumonia. Counseling of the parents on immunization, vaccinations, breastfeeding, and proper nutrition of their children is also critical.

Media should also be involved to disseminate the appropriate message to raise awareness.



Professor Dr. Md Abid Hossain Mollah, Head of Pediatrics, BIRDEM, Dhaka  
IMCI is included in the undergraduate curriculum. A good number of Government clinical

service providers are also trained. However, still, there is a gap between training and its clinical application. To reduce this gap, we should provide refresher training to clinical providers. Again, there is a need to develop regional training centers in a district or divisional headquarters.

Dr Iftekhar Rashid, Health Systems Strengthening Team Leader, USAID Bangladesh



After visiting six districts in the last two or three months, I noticed that we made significant progress. However, while talking to families, healthcare providers and frontline workers, I'd say that much work needs to be done to increase

awareness amongst the families and care providers. We have excellent guidelines and protocols, and support from the central level, but we need to monitor how much of this is followed at the field level. It is also important to ensure the quality of case management pertaining sick children. USAID is supporting MOHFW to strengthen existing coverage and quality of MNH care.

Maya Vandenberg, Chief-Health, PHS, UNICEF



We have joined the global fight against pneumonia. Bangladesh is doing very well in providing cost-effective interventions, such as immunisation programmes. I want to congratulate the Ministry of Health and Family Welfare and all the frontline

workers who are reaching vulnerable children. We are currently working with the government to identify vulnerable children in urban areas as well as hard to reach areas in Sylhet, hill tracts and other low performing areas. While IMCI is a very successful programme, we can do better. Only about 50 to 60 percent of health workers are currently trained to apply IMCI in practice. We are carrying operational research for daycare of severe pneumonia cases. Such daycares can be a cost-effective solution for the management of pneumonia at outpatient setting without admission.

We are facilitating for the procurement and supply of Amoxicillin dispersible tablet. Simple barriers such as antibiotics availability, timely diagnosis, and availability of oxygen supply in every health facility, still exist. We can jointly carry out campaigns in national, local, community clinic and union level facilities to increase awareness for care seeking and management of pneumonia.

Professor Dr Samir Kumar Saha, Microbiologist, Dhaka Shishu Hospital



Findings of a recently published study in the Lancet which was conducted in Bangladesh, India, and Pakistan shows that respiratory syncytial virus is the predominant organism causing sepsis. At some point, we may need to

think about how to address these causes of sepsis of children.

Again Bangladesh is in the transition of gradual with drawl of GAVI support for vaccine procurement which has been addressed in the health sector plan. The country is also graduating from a low-income country to middle-income country. In this context, it is important to ensure uninterrupted procurement and supply of vaccine after with drawl of GAVI support.

Dr Sabbir Ahmed, Adviser, PCC, Save the Children



We have completed operation research of CCM and situation analysis of pneumonia in Bangladesh along with WHO and Unicef. The report will be shared soon. The result will facilitate to fill gaps and opportunities and to

adapt/modify country's policy/strategy to strengthen the fight against pneumonia. We are also working to revitalise existing IMCI working group which will engage key stakeholders to work together under the lead of MOHFW. We also need to have a better understanding of the air pollution situation and its impact on child health in the country.

Dr Shamim Jahan, Director-Health, Nutrition & HIV/AIDS, Save the Children



Globally, as well as in Bangladesh, Save the Children is working closely with the ministry and other stakeholders for the reduction of child mortality and morbidity from pneumonia. We have identified 10

countries that have a high pneumonia burden. Bangladesh, India and Indonesia have been identified from Asia. In Bangladesh, we are working closely with the ministry and other key stakeholders to strengthen the fight against pneumonia which will contribute to achieving SDG 3.