

New hope for Bangladesh

Dr. Rana Hajjeh, Director of the Hib Initiative at Johns Hopkins University shared her views with Star Health in a telephone interview.



The Hib Initiative (www.hibaction.org) unites experts from Johns Hopkins Bloomberg School of Public Health, the London School of Hygiene and Tropical Medicine, the World Health Organisation, and the Centers for Disease Control and Prevention (CDC) and provides technical, coordination and communication support to countries making decisions regarding the use of Hib vaccine.

Dr. Rana commented, "Hib vaccine is a safe, effective and highly cost-effective intervention used for more than 18 years in developed and many developing countries. Where used routinely, it has virtually eliminated Hib disease."

"Clearly, Hib vaccine will have a major impact in Bangladesh in the same way it has saved thousands of children in other countries. We are quite excited that it will save many lives in Bangladesh since there is huge population" she expressed.

Answering the question why this vaccine is being introduced after so many years, she figured out many reasons like gathering enough evidence regarding the disease, laboratory facilities for proper diagnosis, high expense of the vaccine, developing guidelines for the country, adequate facilities to store and transport the vaccine, trained healthcare professionals and so on.

She was asked what will happen when GAVI will no longer financially support for this vaccine. She hoped that the cost of the vaccine will be reduced by that time. New companies are coming with the same products that will also contribute reducing the price. She recalled similar experiences in many other countries where Hib vaccine had been introduced.

Dr. Rana informed that they have initiative to monitor the impact of the vaccine. "We already have planned and taken initiative in collaboration with the Ministry of Health and Family Welfare, ICDDR,B and some other institutions to conduct disease surveillance and vaccine effectiveness study," she told.

Dr. Rana is very happy that the number of vaccine introducing country is increasing in the region. Last year Pakistan introduced the vaccine and India has agreed in principle to launch the vaccine shortly. When the vaccine will be widely used, the cost will automatically be reduced.

Bangladesh introduces Hib vaccine

DR TAREQ SALAHUDDIN

Bangladesh has recently introduced a new combination vaccine that will protect its children against five killer diseases in one injection, including, for the first time, the deadly bacterium Haemophilus influenzae type b (Hib) that causes some severe forms of pneumonia and meningitis.

In a ceremony in Khulna District, southwest of the capital Dhaka, the Minister of Health and Family Welfare, Professor A. F. M. Ruhul Haque, along with other health officials and representatives of UN agencies and development partners administered the first shots of the combination vaccine to Bangladeshi children on January 15, 2009.

Hib is one of the causes of severe pneumonia and meningitis among children. The majority of them are children under five years of age. Even with treatment, thousands of children die of Hib disease every year. Survivors are often permanently disabled—paralysed, deafened or brain damaged.

The vaccine can prevent about one third of life-threatening cases of bacterial pneumonia, the leading infectious cause of death in children worldwide. In Bangladesh, it is estimated that 24% of under-five child deaths is due to pneumonia.

The vaccine will be provided under the routine immunisation programme (EPI) to nearly four million

children born in Bangladesh every year. As Bangladesh records high routine immunisation coverage, it is estimated that Hib vaccine can save about 20,000 children's lives annually year.

"This life-saving vaccine represents an important step forward in preventing childhood diseases in Bangladesh", said A. M. M. Nasir Uddin, Secretary of the Ministry of Health and Family Welfare at the launch. "It will greatly help our country to achieve the Millennium Development Goal 4 which aims at reducing under-five mortality."

In South-Asia, Sri Lanka and Pakistan introduced the Hib vaccine in 2008.

The new combination of 5-in-1 vaccine will protect children against Hib and four other deadly diseases: diphtheria, tetanus, pertussis, and hepatitis B. Instead of three different injections (for DPT, Hepatitis B and Hib), children will only need one injection at three different times during their first year of life: at the age of 6 weeks, 10 weeks and 14 weeks.

This will make it easier for health workers who will need less time and less logistics to immunise all children. It will also increase the uptake of vaccine as each child will get all five vaccines at once. At the same time, it will drastically reduce the system loss of the vaccines.

"We are proud to be part of this new initiative by helping with the procurement of the vaccines and

Bangladesh introduces new vaccine to prevent severe forms of child pneumonia and meningitis; 4 million children to be vaccinated annually with new combination vaccine protecting against 5 killer diseases



New hope raises with the introduction of Hib pentavalent conjugate vaccine that will protect nearly 4 million children every year in Bangladesh. Two women, depicting the faces of millions of parents are seen (on right side) with evergreen smile, who brought their babies to immunise on January 15, 2009 in the launching ceremony of the new vaccine in Bangladesh (left side).



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supporting the training of about 60,000 health workers together with WHO," said Unicef Deputy Representative in Bangladesh, Dr. Iyortumun JUhaa.

The introduction of the 5-in-1 vaccine in Bangladesh is carried out with financial and technical support from the GAVI Alliance (formerly the Global Alliance for Vaccines

and Immunisation) and its key partners including Unicef, WHO and the Hib Initiative.

GAVI will spend more than US\$95 million for procuring more than 27 million doses for 2009-2010. The Government of Bangladesh will co-finance the purchase by investing US\$5.6 million during the same period.

"Vaccines and improvement in health and immunisation systems are much needed in this part of the world," said Dr. Julian Lob-Levyt, Executive Secretary of the GAVI Alliance. "We applaud Bangladesh for taking this important step to help prevent more childhood diseases."

With high poverty, low

literacy levels, and limited access to healthcare, many sick children in this densely populated country of 155 million never reach a hospital and often die at home. Vaccines that protect children against preventable high-mortality infections, such as Hib, were urgently needed. Now more children will be saved from early grave.



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Hib vaccine: A critical ally in Asia's effort to reduce child deaths

A new study from Bangladesh published in The Pediatric Infectious Disease Journal shows that routinely vaccinating infants against H. influenzae type b (Hib), a bacterium that causes deadly Hib pneumonia and meningitis, could save hundreds of thousands of children in Asia.

Results showed that routine immunisation of infants with a Hib conjugate vaccine prevented over one-third of life-threatening pneumonia cases and approximately 90% of Hib meningitis cases.

Although countries in Asia with high mortality rates have long known that pneumonia and meningitis are a significant concern, many assumed that Hib was not a major cause. This vaccine study builds the evidence of the real burden of Hib pneumonia and meningitis.

The proportion of pneumonia and meningitis prevented by the Hib conjugate vaccine is significantly higher than what can be detected through routine surveillance.

"There has been an ongoing disagreement about the total burden of Hib pneumonia and meningitis in Asia, but our findings provide evidence challenging the commonly held notion that these diseases are rare

in Asia," said Dr Abdullah Baqui, Associate Professor, Johns Hopkins Bloomberg School of Public Health, Baltimore, USA. "Our research shows that routine Hib vaccination is a feasible and highly effective way of preventing death related to Hib pneumonia and meningitis and could save the lives of a significant number of Asian children who die under the age of five."

"Bangladesh views Hib vaccine as an integral tool in our mission to improve child survival in Bangladesh," said Dr. Md. Abdul Quader Mian, Deputy Director EPI and Programme Manager Child Health & LCC, Ministry of Health, Bangladesh.

The study was conducted by researchers from International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), Dhaka Shishu Hospital and John Hopkins University. The vaccine used in the study replaced the routine diphtheria, tetanus and pertussis (DTP) vaccine with a DTP-Hib combination. The combination vaccine did not require additional injections or visits to benefit from the expanded protection.

The WHO recommends that all countries adopt Hib vaccine into routine child immunisation programmes.

Facts on Hib pentavalent conjugate vaccine

What is Hib?

Haemophilus influenzae type B (Hib) is a bacterium that causes serious disease in young children throughout the world.

Hib causes one-third to one-half of all cases of bacterial meningitis. Bacterial meningitis is deadly unless treated immediately with the correct antibiotics. Even with proper treatment, 3-25% of affected children may die. 15-35% of children who survive Hib meningitis are left with permanent disabilities.

It also accounts for up to one-third of all cases of severe pneumonia which can also be deadly, especially for young children. Hib can also cause infections of the blood, joints, bones, throat, soft tissues and the covering of the heart.

Hib bacteria live in the nose and throat area. Like Measles virus, Hib bacteria are passed from child-to-child in droplets of saliva when an infected child coughs or sneezes or when children share toys and other objects they have put in their mouths.

Children often carry the Hib bacteria without showing any signs or symptoms.

In spite of its name, Hib does not cause influenza (or "flu") or the common cold.

Who is most at risk for getting Hib disease?

Hib disease is most common in children under five years old. Children between the ages of four months and 12 months are most at risk. For that reason it is important to immunise the children and prevent disease very early in life.

At birth, antibodies from the mother sufficiently protect most infants. But when the child reaches two or three months of age, the level of maternal antibodies falls, and the risk of Hib infection increases.

By age of five years, children usually develop their own immunity against Hib. The disease is rare after the age of five.

Can diseases caused by Hib be treated?

Treatment for Hib disease is

not always effective because some strains of Hib may be resistant to antibiotics. Antibiotic resistance is a serious problem and is increasing every day. Hib immunisation is more effective and less costly than treatment.

How effective is Hib vaccine?

Hib vaccine is highly effective. Complete vaccination with Hib vaccine (three doses of vaccine) reduces the risk of Hib disease in young children by more than 90%.

Hib vaccine does not protect against diseases caused by other germs. Even after complete vaccination with Hib, a child may still get other types of pneumonia, meningitis or viral infections,

Pentavalent Hib vaccine includes (Hib+DPT+ Hepatitis-B) protects against five diseases (Hib disease, Diphtheria, Pertussis, Tetanus and Hepatitis-B).

Children should be immunised on schedule, even if they have a mild cold or fever, mild respiratory infection, etc. These are not contraindications to giving Hib vaccine.

What if a dose is missed?

To guarantee long-term protection, all three doses of pentavalent vaccine should be given at 6 weeks, 10 weeks and 14 weeks. If a child misses the date for vaccination, the child can be given the dose as soon as possible. There is no need to re-start the vaccination schedule.

receiving Hib vaccine develop mild redness, swelling and soreness at the injection site. This will go away within 1-3 days, and is not serious. Parents may want to give the child paracetamol to treat these symptoms.

It is rare for a child to have a fever after being vaccinated only against Hib. However, infants vaccinated with pentavalent vaccine may have fever, probably because of the DPT.

Children older than five years, teenagers, and adults should not be given DPT vaccine, or any combination vaccine containing DPT, because there is a higher risk of adverse reactions for those age groups.

What is the Pentavalent vaccine?

The pentavalent vaccine combines five different vaccines in one injection to protect against five diseases: Haemophilus influenzae type B (Hib) disease, Diphtheria, Pertussis, Tetanus and Hepatitis-B.

Children immunised with the 5-in-1 vaccine do not need anymore to be vaccinated separately with the DPT vaccine or the Hepatitis B vaccine as he will get those in the same injection.

Who should get pentavalent vaccine?

All children between six weeks and five years of age should receive three doses of pentavalent vaccine with an interval of at least four weeks between the doses. However children who have already started immunisation with DPT and Hepatitis-B will complete their vaccination with DPT and Hepatitis-B. They will not get pentavalent vaccine.

Vaccination with pentavalent must be completed within two years of age if the child starts before 1 year of age.

Children under six weeks of age, over five years, teenagers and adults should never be given pentavalent vaccine because of the DPT component.



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such as the flu.

Are there any contraindications to Hib vaccination?

No. Children over six weeks of age can be given Hib vaccine safely. Monovalent Hib vaccine (vaccine against Hib only) can safely be given to children, teenagers, or adults. But combination vaccines that include DPT vaccine should only be given to children over six weeks of age and under five years of age. DPT vaccine is not effective for children under six weeks of age and the "P" component of DPT (pertussis vaccine) can cause adverse reactions in children over the age of five, teenagers, and adults.

Only 25% of children

One step forward to achieve MDG 4

Dr. Samir Saha, Head of the Department of Microbiology at Dhaka Shishu Hospital and Executive Director of Child Health Research Foundation in Bangladesh commented, "With the introduction of Hib vaccine, we are now one step forward meeting the MDG-4."



Dr. Samir K Saha

He said, "The situation with Hib disease in Bangladesh is very grave, since drug-resistant strains are increasing, and to treat infection doctors must use expensive drugs, which are not readily available in most hospitals. This vaccine will prevent needless suffering, disability, and death."

Dr. Saha coauthored a case-control study showing that routine immunisation of infants with Hib vaccine prevents one third of serious pneumonia cases and more than 80% of probable bacterial meningitis cases in Bangladesh.

Dr. Saha tried to reveal looking back that the vaccine was in the market for the last 18 years. But now Bangladesh is launching Hib vaccine in its routine immunisation programme. Whereas there were enough evidence and country parameters to introduce the vaccine, there was unexpected delay in prioritising the need. Now it is time to think how the limited resources can be utilised amidst lots of problems.

Dr. Saha underscored that the government of Bangladesh should encourage and help in capacity building of the local institutes to have appropriate research for producing evidence that will be internationally acceptable. This will in time help to take proper decision according to the need of the country.

The most exciting news of the time is — a new vaccine is coming soon to prevent another greatest killer Pneumonia. We made enough delay to get Hib vaccine; if the upcoming next vaccine is also delayed, this will be another misfortune of the history.

We need get prepared for that collecting enough evidence based information in favour of the country. He opined that this is work of a multi-disciplinary group in appropriate time.

Dr. Saha said, "Now we need monitoring the impact of Hib vaccine in the routine immunisation. Calculating the cost of the vaccine is not enough, at the same time, we have to calculate the cost-effectiveness of the vaccine in the way it saves lives, morbidity and most importantly the way it impacts through indirect ways."