

Pneumonia: No. 1 killer of Pakistan's children



Courtesy of Tabish Hazir

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Tabish Hazir is an associate professor of paediatrics at the Children's Hospital, Pakistan Institute of Medical Sciences (PIMS) in Islamabad. He earned his medical degree at Allama Iqbal Medical College, Lahore in 1983, and then acquired his membership and fellowship in paediatrics from Pakistan's College of Physicians and Surgeons. He is currently head of the department of paediatric infectious diseases and he is the principal investigator of the ARI [acute respiratory infection] Research Cell, Children's Hospital, PIMS, Islamabad.

No disease kills more children aged less than five years than pneumonia, not least in Pakistan where one-fifth of the population is in this age group. Tabish Hazir explains the problem and what is being done to halt the disease in his country.

Q: Do we really know the burden of disease of pneumonia among children in Pakistan and in other developing countries?

A: In most developing countries there are gaps in knowledge of the disease burden. There is documentation of pneumonia cases in data from DHS [Demographic and Health Surveys] and MICS [Multiple Indicator Cluster Surveys of the United Nations Children's Fund (UNICEF)], but the way we classify and identify pneumonia cases is not very specific. The numbers that we have are not 100% accurate but they are the best possible estimates. The estimates from Pakistan tell us that the [annual] incidence of ARI [acute respiratory infection] in children aged less than five years is 1–4% in the community – a group constituting roughly 22% of the country's population of 160 million. Taking this 1–4% figure, we can calculate that there are 15 million episodes of ARI every year among under-fives. There are slight differences in data sources, such as DHS and those collected by UNICEF, but irrespective of the differences the disease burden is huge.

Q: Why are so many children still dying of a disease for which there are vaccines and effective treatment? What is Pakistan's government doing to tackle the problem?

A: Vaccines against Hib [*Haemophilus influenzae* type b] and pneumococcal infections, the two leading causes of childhood pneumonia, are very

expensive. Right now the Expanded Programme on Immunization (EPI) in Pakistan vaccinates children against six diseases, but doesn't include these two because of financial constraints. The brighter side is that the GAVI Alliance is giving financial assistance to countries, like Pakistan, that cannot afford vaccinations. The GAVI Alliance has agreed to fund the Hib vaccine for all children in Pakistan and our children should start getting these vaccinations later this year. With support from the GAVI Alliance, the pneumococcal vaccine is also in the pipeline and our EPI programme is considering introducing it by 2010. Once these two vaccines are introduced, we expect a reasonable decline in the number of pneumonia cases.

Q: Can you tell us about disease control initiatives that have had an impact in Pakistan?

A: The polio eradication programme is a good example. Most of the districts in Pakistan are now polio free. Since eradication efforts were stepped up just over a decade ago, we have seen a steady decline from hundreds to something like 30 cases per year. This is due to pressure from health-care professionals and donors as well as from WHO and other international organizations [for Pakistan] to do something about polio. They were able to get the political commitment at the highest level and there has been a very close coordination for monitoring and implementation. We now need the same kind of pressure

and commitment to do more about pneumonia.

Q: Why do so few mothers in Pakistan fail to pick up on the early signs of pneumonia and why do many mothers fail to seek help when their children show signs of respiratory disease?

A: I agree with you that this has been the weakest link we have had in our national ARI and other child health-related programmes. On paper, there is much emphasis on behaviour-change communications such as counselling mothers and working in communities. In reality very little is being done to educate mothers or involve them in case management. Most pneumonia deaths take place in the under-privileged segment of society, where women are not very literate, have little formal education and are dependent on men. They have problems leaving the house unless accompanied by a relative. Then there are socioeconomic factors such as the lack of transportation and scarce finances. Even if the mother is able to recognize signs of pneumonia and is able to overcome the constraints, the lack of access to quality health services makes matters more complicated.

Q: Why does pneumonia receive less media attention in your country than health problems which have a smaller disease burden?

A: For media, the story must be sensational and new. Pneumonia is old, something everyone has been hearing about for years. It was sensational in the 1970s, when people said the pneumonia burden was like a jumbo crashing every minute. Today we have bird flu, HIV and several issues that do not carry such a high disease burden but that receive huge media attention. Every time a bird dies in Pakistan, the television channels go crazy devoting hours to the possible outbreak of bird flu, but there is no mention in the media of the diseases of which children are dying every minute in this country.

Q: What was new about your study published in the Lancet in January 2008 that found that mothers can be instructed in treating their children at home for severe pneumonia?

A: Under current WHO recommendations for treating children with severe pneumonia, they should be referred to a health facility and given injectable antibiotics. We have plenty of data to show that when a health worker tells parents that their child is very sick and should be taken to a health facility, many children are not taken to the health facility and die at home. Guidelines cannot always be followed in real life as there are so many constraints. Our study shows that you can treat these sick children at home and save their lives. It also offers an opportunity to provide health education to the mother. It involves detailed counselling on how to look out for signs of deterioration and when to take children to a health facility. That way, you can save many lives without referral, which can be a very complicated process in many under-privileged communities.

Q: Do your findings mean that WHO guidelines on treating children aged less than five years with pneumonia need to be updated? What was WHO's response to the findings?

A: WHO guidelines are based on evidence, and evidence is not carved out in stone. Thirty years have passed since the initial evidence on which the guidelines were based. In 2003, WHO invited experts from across the world to an ARI consultation in Geneva to

make modifications to the guidelines in the light of new evidence. Recently there was another meeting to revise the guidelines again.

Q: Home-based care is a low-cost solution but one that faces opposition from medical and public health professionals. Has such opposition been a hurdle for your work?

A: Health-care professionals are concerned about safety of any new intervention, and rightly so. When I presented our study results for the first time, there was a huge uproar. There was concern that the children participating in the study were monitored closely by health professionals, but that in real life that may not be possible. What if children were not monitored very closely, what would happen to those children? Are we not exposing these children to high risks? At least in hospital they are being monitored. My response to those concerns is that our data show that hospitalization in no way confers a certain degree of safety to these children. The data show that all the deaths, except one, took place in the hospital and that taking children to hospital and keeping them under close vigilance does not protect them from death or treatment failure. Professionals do become convinced by evidence but that does not mean they change their practice.

Q: What about the risk of developing resistance to antibiotics that mothers are giving to their children?

A: Drug resistance is a huge problem but our study does not recommend indiscriminate use of antibiotics. We do not recommend giving the mother the authority to start the antibiotics. The child is seen by a health-care provider who prescribes an antibiotic and determines the dose and duration of therapy. All they do is hand over the medicine to the mother with instructions on how and when to give the child their medicine, what signs to look out for, when to bring the child to the health facility.

Q: What is the next step, apart from revising WHO guidelines on childhood pneumonia?

A: In our study, children with pneumonia were seen by qualified doctors and treated and monitored by qualified doctors. In real life, a doctor is not available in many communities. The next step is to find out if it is safe for lady health workers (community health workers) to treat severe pneumonia at home. This study has started in two districts in Pakistan, Haripur and Hala. Along with Save the Children, Pakistan, and the Aga Khan University, we are in the process of training the lady health workers. We will have the results in three years' time. ■

Recent news from WHO

- WHO welcomed the announcement that the Government of Japan is awarding the first **Hideyo Noguchi Africa Prize** for service to global public health. The recipients are Brian Greenwood, Professor of Clinical Tropical Medicine at the London School of Hygiene and Tropical Medicine, and an innovator in malaria research; and Miriam K Were, an AIDS specialist doing community-based work in East Africa. Each will receive 100 million yen (about US\$ 1 million) at the awards ceremony on 28 May.
- WHO's Regional Office for Africa was scheduled to hold a major conference on **primary health care** in collaboration with United Nations agencies, the World Bank, the African Development Bank and other partners. The 28–30 April conference, hosted by the government of Burkina Faso in Ouagadougou, marks the 30th anniversary of the Declaration of Alma-Ata on primary health care. Health service managers, researchers and representatives of health ministries, training institutions, nongovernmental organizations and communities were expected to attend.
- World Health Day 2008 on 7 April marked the 60th anniversary of the World Health Organization. WHO used this occasion to raise awareness about the need to protect health from the adverse effects of **climate change**. Among the many initiatives to mark the event worldwide, WHO Director-General Margaret Chan launched a new report, *Protecting health from change* (http://www.who.int/world-health-day/toolkit/report_web.pdf) and WHO's Office for the European Region published a document entitled *Protecting health in Europe from climate change* (http://www.euro.who.int/Document/GCH/Protecting_health.pdf)
- A week-long campaign to vaccinate 5.7 million people against **yellow fever** across the southern half of Mali began on 11 April and, for the first time, the campaign relied partly on vaccines provided by a developing country. Half the vaccine needed was supplied by Bio Manguinhos of Brazil.

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