African health ministers to introduce new vaccine to prevent deadly meningitis epidemics

Medicine

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Yaoundé — Health Ministers from countries of the African Meningitis Belt today committed themselves to introduce a highly promising candidate meningitis vaccine. The vaccine is designed to prevent periodic epidemics of the deadly disease in these countries.

Meeting at the World Health Organization's 58th Regional Committee for Africa held in Yaoundé from 1-5 September, Ministers adopted the Yaoundé Declaration, committing themselves to several actions. Notably, they agreed to prepare comprehensive meningitis control plans, including the introduction of the new vaccine, once available; to implement meningitis control strategies; to undertake joint action vis-à-vis the threat; to improve information exchange for epidemic response and to contribute financially to activities to control epidemics.

"Several hundred million persons are at risk of meningitis in 25 African countries. Many generations have suffered," said Professor Avocksouma Djona, Minister of Public Health, Chad. "On behalf of all affected countries in Africa, today we are collectively committing ourselves to put an end to devastating outbreaks of this disease. We will ensure that this effective new vaccine is made available to populations throughout the Meningitis Belt," he said.

"The new vaccine is the result of a deliberate effort to get ahead of these epidemics, at a price affordable in Africa. With this vaccine, countries can move away from a reactive response to emergencies towards elimination of the epidemic threat," said Dr Margaret Chan, Director-General, WHO. She added that WHO will provide technical support for introduction of the vaccine.

The candidate vaccine has several advantages. Priced at just US$ 0.40 per dose, the vaccine produces in both adults and toddlers a higher immune response than the currently available vaccine. In addition, the new vaccine confers long-term protection and induces immunity in certain non-vaccinated persons who live in proximity of those who are immunized, leading to broad community protection.

The meningitis prevention and control strategy that affected countries will implement entails introducing the new meningococcal A conjugate vaccine to immunize a population of approximately 250 million 1 to 29 year-olds and 23 million infants living in 25 African countries from 2009-10 to 2015. It also requires ensuring that adequate quantities of the currently available meningococcal polysaccharide vaccines are available for epidemic response. The latter initiative is important for two reasons: first, to ensure a smooth transition from current epidemic response strategies to a preventive approach and, second, to respond to the threat of non-group A meningococcus meningitis outbreaks (group C or W135).

The meningitis prevention and control strategy was reviewed and endorsed by WHO's Strategic Advisory Group of Experts on Immunization in April 2008, and by the GAVI Alliance Board in June 2008.

"Vaccination with the new meningitis vaccine is money well spent. Our initial investment of US$ 55 million towards a meningitis stockpile will greatly help stave off additional outbreaks of this disease," said Dr Julian Lob-Leyvt, Executive Secretary, GAVI Alliance. The GAVI Alliance is a public-private partnership of major stakeholders in immunization including WHO, UNICEF, the World Bank, developing country and donor governments, the vaccine industry research and technical agencies, civil society and the Bill & Melinda Gates Foundation.

The new product, conjugate meningococcal A vaccine ("MenAfriVac"), was developed through the Meningitis Vaccine Project a product development partnership between WHO and the Program for Appropriate Technology in Health (PATH), a non-governmental organization. The Project was set up in 2001 with core funding from the Bill & Melinda Gates Foundation.

"A single case of meningitis can drive a family into a spiral of poverty from which they may never recover. By committing to introducing MenAfriVac in meningitis belt countries, African governments will play a pivotal role in eliminating epidemics that have plagued the continent for more than a century, and they will help reduce poverty," said Dr F. Marc LaForce, Meningitis Vaccine Project Director.

"Meningitis outbreaks have devastated communities in the poorest countries of Africa for many years. Children, in particular, are at risk. Now, with the new vaccine that is promising to be effective longer, there is a good chance that we can finally get a grip on the disease and protect all children and parents from this life-threatening disease," said Esther Guluma, Regional Director, UNICEF Regional Office for West and Central Africa.

"This is a major development in the prevention and control of cerebro-spinal meningitis in the Sahel countries that will reduce the risk of epidemics currently killing thousands of people in the meningitis belt," said Dr Luis Gomes Sambo, Director, WHO Regional Office for Africa.

The new vaccine is expected to be introduced starting in 2009-10 in Burkina Faso and will be phased into an additional 24 countries between 2010 and 2015, with GAVI support. GAVI funding will also go towards ensuring sufficient stocks of the current vaccine are available for epidemic response during the introduction of MenAfriVac.

Background

The candidate conjugate meningococcal A vaccine protects against infection by group A Neisseria meningitidis (meningococcus), the strain mainly responsible for deadly outbreaks in 25 "meningitis belt" countries. Some 430 million people, living in the area stretching east to west across the continent from Senegal to Ethiopia are at risk of this bacterial disease. Even with antibiotic treatment, at least 10% of patients die and up to 20% have serious permanent health problems as a result of the disease.

A Phase I clinical trial in adults aged 18 to 35 years was successfully completed in India. Phase II clinical trials of the candidate vaccine have been completed in The Gambia and Mali and showed almost 20 times higher antibody levels in one to two year olds, compared to the existing

polysaccharide vaccine. (Follow-up of this trial is ongoing). Phase II/III clinical trials have been successfully completed in two to 29 year olds in The Gambia, Mali and Senegal.

The vaccine is safe in testing and is manufactured by an Indian company.

Next steps

An additional large phase III trial will be conducted in India and Mali in early 2009. A phase II study in infants began in Ghana in late August with results expected in 2010. The results of these trials may allow to extend indications for use to infants.

The vaccine is expected to be licensed in India in the course of early 2009, and to be submitted for WHO evaluation shortly thereafter. African countries may also register the vaccine during 2009 to allow early introduction.