

NEWS

Indian academy recommends whole cell pertussis vaccine for primary vaccination

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The Indian Academy of Pediatrics has recommended the whole cell pertussis vaccine over the acellular version for primary vaccination, contrary to the situation in many developed countries, which have shifted to acellular vaccine.¹

Despite high vaccination coverage, pertussis remains an important cause of infant mortality in India. The introduction of whole cell vaccines in the 1960s and 1970s led to a dramatic reduction in incidence and mortality across the world. However, some minor adverse reactions, such as redness, swelling, and fever, prompted a shift in some industrialised countries to the acellular vaccine.^{1,2} Waning immunity has been reported with both vaccines. Recent outbreaks of pertussis in countries that have used the acellular vaccine have been linked by some commentators to the vaccine's lower effectiveness.

The Indian Academy of Pediatrics has recommended only the whole cell vaccine (as the diphtheria, tetanus, whole cell pertussis (DTwP) vaccine) for all infants, including those with HIV, after taking into account its effectiveness, safety, and better priming; levels of public acceptance; and a lack of documentation of significant waning in effectiveness. Primary vaccination is scheduled at 6, 10, and 14 weeks, with two boosters at 15-18 months and 5 years (preferably also with the whole cell vaccine). The academy recommends the acellular vaccine (DTaP) only for children with neurological disorders and those who experienced severe adverse effects after previous whole cell vaccination.

The academy also issued guidelines on the appropriate use of the Tdap vaccine (which has a lower concentration of the diphtheria toxoid and acellular pertussis components). It said

that Tdap should be used for everyone over 7 years old, as the higher reactogenicity of the DTwP and DTaP vaccines mean that they are not recommended in this age group. In addition, the academy recommends a single dose of the Tdap vaccine for pregnant women in their third trimester, irrespective of their previous vaccination history with the same vaccine.¹

The whole cell vaccines consist of standardised inactivated cultures of *Bordetella pertussis*, while the acellular vaccine may contain one or more of the bacteria's virulence factors, including the pertussis toxin, filamentous haemagglutinin, pertactin, and fimbrial antigens.² The recommendation for the whole cell vaccine was based on India's experience with the vaccines, said the academy. Data on the effectiveness of the acellular vaccines in India are not yet available, it said.

Vipin Vashishtha, convener of the academy's Advisory Committee on Vaccines and Immunization Practices, told the *BMJ* that the most important recommendations of the recent position paper were those on use of whole cell vaccine for primary vaccination and on vaccinating pregnant women.

The academy has also urged the government to look more closely at the quality of the various whole cell and acellular pertussis vaccines currently available in the Indian market.

1 Vashishtha VM, Bansal CP, Gupta SG. Pertussis vaccines: position paper of Indian Academy of Pediatrics (IAP). *Indian Pediatr* 2013;50:1001-9.

2 World Health Organization. Pertussis. 25 Oct 2013. www.who.int/biologicals/vaccines/pertussis/en.

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