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Hexavalent vaccine to make India's immunisation programme more efficient: Study

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To provide economic benefits and save on the number of injections

A study led by Dr Pawan Kumar and Dr Kapil Singh from the Ministry of Health and Family Welfare, Government of India along with Dr Susmita Chatterjee from The George Institute for Global Health India, Dr Arindam Ray and Dr Amrita Kumari from The Gates Foundation, Dr Homero Hernandez from Gavi, The Vaccine Alliance, and Dr Arup Deb Roy from John Snow India, has found that introducing the hexavalent (six-in-one) vaccine into India's Universal Immunisation Programme (UIP) could improve the efficiency of the country's childhood immunisation programme.

The vaccine will reduce the number of injections that infants receive, ease the workload of frontline health workers, lower cold-chain requirements, and save caregivers' time.

The hexavalent vaccine is a six-in-one combination vaccine that protects children against six serious diseases including diphtheria, tetanus, pertussis, hepatitis B, Haemophilus influenzae type b (Hib), and polio in a single shot. By combining multiple vaccines into one, it reduces the number of injections infants receive during routine immunisation visits.

Researchers found that the price of the hexavalent vaccine remains the single largest determinant of overall programme costs. Based on historical trends in vaccine procurement in India, the study estimates that a 50 per cent reduction in vaccine price would enable the operational and system-level savings to outweigh the additional vaccine acquisition costs under the primary immunisation schedule.

The research shows that introducing the hexavalent vaccine could deliver several benefits, including:

- Fewer injections for infants, making vaccination more convenient for children and caregivers
- Lower cold-chain storage requirements
- Reduced use of syringes and other vaccination supplies
- Less time spent by Auxiliary Nurse Midwives (ANMs) administering vaccines and maintaining records
- Lower workload for cold-chain handlers and vaccine managers
- Time savings for parents and caregivers during immunisation visits

The study assessed two implementation scenarios: replacing the current pentavalent and fractional IPV doses with the hexavalent vaccine during the primary immunisation schedule, and replacing both the primary schedule and the DTP booster dose with the hexavalent booster.

Costs were assessed from both government and household perspectives, including vaccine procurement, syringes, cold-chain logistics, healthcare worker time, and caregiver time.