

# Study finds rare rotavirus strain in city

'Vaccine can prevent 44,550 under-5 deaths per year in India'

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**A** PUNE study on rotavirus — a prime cause for severe gastroenteritis in infants and young children— underlines the heavy burden of this disease and the changing profile of the strains circulating in the city.

Dr Ashish Bavdekar, Shobha Chitambar and others have, in their study on changing trends in circulating rotavirus strains in Pune from 2009-12, noted the emergence of a rare G9P (4) rotavirus strain.

Out of 685 stool specimens from children hospitalized for acute gastroenteritis from January 2009 to December 2012 in Pune, a total of 241 (35.1%) were positive for the rotavirus antigen by ELISA test. Researchers have reported the study in the online journal *Vaccine's* August 11 issue. The findings show continued circulation of the G9 strains with the emergence of G9P(4) and G-12 strains in Pune.

It is estimated in India that rotavirus accounts for 22 per cent of deaths, 30 per cent of hospitalizations and 8.3% of the outpatient visits occurring globally each year.

The Indian Rotavirus Strain Surveillance Network (IRSN) was set to assess the need for rotavirus vaccines in the country, and studies have shown an increasing burden of the disease.

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*Vaccine*, in its recently published reports, has included findings on the burden of rotavirus-induced diarrhoea and the potential impact of introducing rotavirus vaccines in India.

Recently Prime Minister Narendra Modi had said that rotavirus vaccines will be introduced in the country's Universal Immunization Programme (UIP).

The papers are authored by a range of technical experts from institutions including Christian Medical College, Centers for Disease Control, Public Health Foundation of India and others. They include new research on the cost-effectiveness of introducing rotavirus vaccines, the potential impact of scaling up India's Universal Immunization Programme, and the genetic diversity of the virus. Professor Ramanan Laxminarayan, Vice President of Public Health Foundation of India, said an analysis of

the UIP regarding introduction of rotavirus vaccine in India showed that it will prevent approximately 44,550 rotavirus under-five deaths in India per year.

It will also prevent \$215,569 out of pocket expenditure per 100,000 under-five children.

According to estimates, there are 78,000 rotavirus-associated deaths annually, of which 59,000 occur in the first two years of life.

India has highest under-five deaths globally and 20% of which are due to diseases that vaccines can prevent. In response to this, the UIP is working to both increase immunization coverage and introduce new vaccines, Laxminarayan said.

The report analysed the disease burden on Indian population through increasing vaccination rates and introduction of rotavirus vaccines in a step-wise manner—introduction of rotavirus vaccine at current DPT3 level, increase in Diphtheria Pertussis Tetanus (DPT), measles and rotavirus (all immunization rates) vaccination coverage to 90% randomly across Indian households.

Increasing all immunization rates (i.e. DPT, measles and rotavirus) to 90% prevents another 8500 under-five deaths, Laxminarayan said adding that the cost of introduction of rotavirus vaccine at DPT3 level (70% coverage nationally) will cost another \$93 million (17%).