DIARRHOEA

A threat to child health and survival

Diarrhoea is one of the leading causes of death and illness among children under five years of age in the world. It results in billions of cases per year.\(^1\) In 2013, over 570,000 children under five years of age died from diarrhoea.\(^2,3\)

In India, diarrhoea caused more than 130,000 child deaths in 2013.\(^5\) This accounts for roughly one-fourth of all global diarrhoea deaths among children under five years of age.\(^6\)

**WHAT IS DIARRHOEA?**

- According to the World Health Organization (WHO), diarrhoea is "the passage of three or more loose or liquid stools per day, or more frequently than is normal for the individual."\(^1\)
- If left untreated, diarrhoea can lead to severe dehydration, which can result in hospitalisation or even death.

**WHAT CAUSES DIARRHOEA?**

- Most cases of diarrhoea in children result from infection caused by viruses, bacteria, or parasites, which disrupt the normal fluid and nutrient absorption of the intestines. These pathogens commonly spread through unsafe drinking water, poor hygiene and sanitation, unclean feeding practices, or person-to-person contact.

Children who suffer from underlying malnutrition, poor health, and lack of access to medical care are more vulnerable to diarrhoea. Diarrhoea in turn perpetuates their malnutrition and susceptibility to illness and death.

**ROTAVIRUS DIARRHOEA**

- Rotavirus is the leading cause of moderate-to-severe diarrhoea in India, accounting for approximately 40% of all diarrhoea cases requiring treatment.\(^5, 6, 7\)
- Symptoms of rotavirus infection include rapidly progressing profuse diarrhoea, vomiting, and fever. Recent studies have estimated that rotavirus led to more than 78,000 deaths in India in 2011 among children under five years of age. In the same year, the virus accounted for more than 870,000 hospitalisations, over 3 million outpatient visits, and over 11 million diarrhoea episodes.\(^8\)

Rotavirus diarrhoea also poses a significant economic burden to India. One study estimated that India spends Rs. 4.9 billion and Rs. 5.4 billion each year on hospitalisation and outpatient visits—each of which is more than the estimated Rs. 4.5 billion it would cost to fund a rotavirus immunisation program.\(^8\)

The average cost of a hospitalisation for rotavirus diarrhoea ranges between Rs. 2000 and Rs. 8400, depending on the hospital facility.\(^8, 9\) This equates to one or two months of income for an average Indian family—a cost that could easily push a family into poverty.\(^9\)

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A set of comprehensive interventions that includes protection, prevention, and treatment, and which is supported by robust health systems, is essential to address death and suffering arising from this disease. A key component of prevention is vaccination.

**Protection**
- Exclusive breastfeeding for 6 months
- Vitamin A and zinc supplementation
- Adequate nutrition

**Prevention**
- Vaccination: - rotavirus, hep A/B, typhoid, cholera, measles (shown to indirectly reduce risk of diarrhoea)
- HIV Prevention
- Promotion of hand washing and hygiene
- Safe water and sanitation

**Treatment**
- Community case management
- Health facility case management
- Improvement of care-seeking behaviour
- Oral Rehydration Therapy (ORT)

**VACCINATION: THE BEST PROTECTION AGAINST ROTAVIRUS**

- ORT, most often in the form of Oral Rehydration Salts (ORS), is effective in treating mild rotavirus infections. However, when this treatment is unavailable, or received too late, rotavirus can be deadly. Rotavirus cannot be treated with antibiotics or other drugs and is highly contagious. Interventions that prevent other forms of diarrhoea — such as improvements in hygiene, sanitation, and drinking water — do not adequately prevent the spread of rotavirus. Prior to vaccination, rotavirus infected children everywhere — even in countries with excellent sanitation and water supply. For these reasons, vaccination offers the best hope for protecting children. Today, rotavirus vaccines are saving lives, reducing disease and suffering, and improving health worldwide.

- Rotavirus vaccines are currently being used in more than 70 countries.[10] Reductions in diarrhoea hospitalisations have been demonstrated in more than 10 countries, including low- and middle-income countries.[11, 12, 13, 14] Additionally, several countries have also documented a steady decline in diarrhoea deaths.[15, 16, 17, 18]

- Studies show that the vaccine significantly reduces rotavirus hospitalisations among older children who are not vaccine-eligible. This phenomenon is called “indirect effect” or “herd protection.” This is likely because of reduced circulation. For instance, in the US, the number of hospitalisations caused by rotavirus fell by 80% among children who were vaccinated and by 74% among those not vaccinated.[11]

- Rotavirus vaccines have been recommended by the WHO for use in national immunisation programs worldwide and have been listed as necessary components of WHO and UNICEF’s Integrated Global Action Plan for the Prevention and Control of Pneumonia and Diarrhoea (GAPPD). They are also key elements of the WHO Global Vaccine Action Plan, which is endorsed by 194 member states, including India. In India, the Indian Academy of Pediatrics has recommended the use of these vaccines for all Indian children.[19, 20]

- In July 2014, the Prime Minister’s Office announced the inclusion of rotavirus vaccine in India’s Universal Immunisation Programme. In addition to Rotarix and RotaTeq, which are currently licenced and available in the private market, India’s first indigenous rotavirus vaccine, Rotavac, was licensed in 2013.

- According to one study, introduction of a rotavirus vaccine in the national immunization program would prevent over 25,000 deaths, nearly 300,000 hospitalisations, and more than 600,000 outpatient visits each year in India.[8]