

## Diarrhoea: A public health concern in India

**Mains (GS II)** – *Issues relating to development and management of Social Sector/Services relating to Health, Education.*

### Why in News?

Recent study of to the World Health Organization (WHO) study, reveals that diarrhoeal disease is the leading cause of death among children (1-5 years) annually.

### What is Diarrhoea?

- **Diarrhoea** – It is defined as the passage of 3 or more loose or liquid stools per day (or more frequent passage than is normal for the individual)
- Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms.
- Infection is spread through contaminated food or drinking-water, or from person-to-person as a result of poor hygiene.
- **Types** – There are 3 clinical types of diarrhoea:
  - **Acute watery diarrhoea** – Lasts several hours or days and includes cholera
  - **Acute bloody diarrhoea (Dysentery)** – Bloody stools associated with fever and lasts upto 14 days.
  - **Persistent diarrhoea** – Lasts 14 days or longer.
- **Complication** – During a diarrhoea, water and electrolytes (sodium, chloride, potassium and bicarbonate) are lost through liquid stools, vomit, sweat, urine and breathing.
- It leads to dehydration and cause mortality in children.

### What are the causes for diarrhoea?

- **Infection** – Pathogens were the leading cause for the diarrhoeal disease.
  - **Viral pathogens** – Rotavirus, norovirus, adenovirus and astrovirus.
  - **Parasitic pathogens** – Cryptosporidium, Giardia and Entamoeba spp.
  - **Bacterial pathogens** – E. coli, Salmonella, and Shigella

***Rotavirus** is a top viral cause in kids, leading to 10-20% of cases and severe illness often leading to hospitalization.*

- **Malnutrition** - Malnutrition in children makes them more vulnerable to diarrhoea.
- **Water contamination** - Contamination of water with faecal matters from sewage, septic tanks and latrines, is of particular concern.
- **Poor hygiene** - Diarrhoeal disease can also spread from person-to-person, aggravated by *poor personal hygiene*.
- Food is another major cause of diarrhoea when it is prepared or stored in unhygienic conditions.
- **Unsafe storage** - *Unsafe domestic water storage* and handling are also an important risk factor.
- **Weak immunity** - Kids with malnutrition or HIV are at higher risk.

### Treatment

- **Oral rehydration solution (ORS)** - A mix of water, salt, and sugar replaces lost fluids; works for 90% of cases.
- **Zinc supplements** - Cuts diarrhoea time by 25% and stool amount by 30%.
- **IV fluids** - Used for severe dehydration or shock when kids can't drink.
- **Hydration** - Rapid hydration is key since antibiotics don't work on rotavirus.
- **Hospital care** - Severe dehydration needs hospital treatment.

### What is the burden of diarrhoeal diseases in India?

- **High prevalence** - India has among the highest incidence of diarrhoeal illnesses worldwide, with children under five experiencing an average of 2 to 2.3 episodes per year.
- **High number deaths** - They accounts for *third leading cause of death for children under five*, with 443,832 deaths yearly, and India bears a significant share.
- **Affects nutrition** - Diarrhoea is a leading cause of malnutrition, worsening children's immunity.
- **Sanitation issues** - 780 million lack safe water, and 2.5 billion lack good sanitation worldwide, hitting India hard.
- **Regional differences** - States such as Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan experience a higher diarrhoeal burden, primarily due to weaker sanitation infrastructure.
- **Low awareness** - Only 50-60% of Indian kids get ORS and zinc due to poor knowledge.

### What is the role of sanitation and vaccination in diarrhoea control?

- **Sanitation prevents deaths** - WHO says better sanitation could stop 60% of diarrhoea deaths in India.
- Better toilets and waste systems stop germs, cutting over half of diarrhoea deaths.
- Prevents the spread - Simple everyday hygiene practices can go a long way in preventing rotavirus infections, which spread through the fecal-oral route, often due to poor hygiene, contaminated food, and unsafe drinking water.
- **Clean water supply** - Piped water across India could prevent 4,00,000 diarrhoea deaths as per WHO's study.
- **Rural focus** - Better sanitation in villages could close the gap with cities.

- **Vaccines lower cases** - Following the introduction of rotavirus vaccination in 2016, there has been a noticeable decline in diarrhoeal diseases, particularly those caused by rotavirus.

*India's national immunisation schedule includes three doses of the rotavirus vaccine at 6, 10, and 14 weeks of age.*

### **What lies ahead?**

- Sanitation push through Swachh Bharat for cleaner water and toilets, aims to cut diarrhoea deaths significantly.
- Raising awareness to avail simple treatments like ORT and zinc.
- Promoting personal hygiene practices among citizen through campaigns
- Vaccination of infants before six to eight months, as they are highly susceptible to infections during this period.
- Preventive measures such as exclusive breastfeeding for the first six months, proper hygiene, safe drinking water, and avoiding unhygienic food, could also go a long way.

### **References**

1. [The Hindu| Diarrhoeal Disease a Public Health Concern in India](#)
2. [WHO| Diarrhoeal Disease](#)