

## Rotavirus [Meaning, Treatment, Immunization]

Infections and diseases, especially those linked to national immunization programmes are very important for the [UPSC exam](#). Questions can be asked on these topics both in the prelims and the mains. In this article, you can learn more about the rotavirus infection, treatment, vaccination, etc. for the civil services exam.

### What is Rotavirus?

Rotavirus is a type of infection that is mostly seen in children under the age of five. It causes severe vomiting and diarrhoea, and can even lead to death. Although even adults can be affected by the virus, the symptoms are usually very mild. Also, the disease is very contagious and easily transmittable.

Rotavirus belongs to the viral family Reoviridae, which was named as “rota” virus due to its wheel-like shape as visible under an electron microscope.

The biggest concern during a rotavirus infection is dehydration and in developing countries, it can even be fatal. Worldwide, more than 2 lakh children under the age of five die due to rotavirus, according to the [World Health Organisation \(WHO\)](#). In India, rotavirus is the most severe and lethal cause of childhood diarrhoea. Diarrhoea is responsible for about 10% of the under-five deaths in the country. Rotavirus causes almost 78000 annual deaths in India.

### Rotavirus Symptoms

The body can be infected by rotavirus for days before the symptoms start to show. Some of the common symptoms are listed below.

1. Vomiting
2. Severe watery diarrhoea
3. High fever
4. Severe fatigue
5. Dehydration
6. Irritability
7. Abdominal pain
8. Black or tarry stool, stool with pus or blood

### Causes of Rotavirus

Rotavirus spreads very easily via hand-to-mouth contact from an infected person and can spread even if the infected person doesn't show symptoms. For example, it can spread when a child infected with rotavirus goes to the bathroom and then doesn't wash his hands properly before touching other things or people. The virus can remain infectious on surfaces for weeks or longer if the area isn't disinfected.

### Treatment for Rotavirus

The best way to prevent rotavirus is good hygiene like washing hands properly and often, although vaccines offer the best protection against this disease.

Once infected, there is no medication that can make the infection disappear, but the symptoms can be treated. This includes antibiotics, anti-diarrhoeal medicines, and antiviral medications. Plenty of fluids should be given to the patient to reduce dehydration. Hospitalisation would be required in case of severe dehydration.

## Rotavirus Vaccines

WHO recommends that rotavirus vaccines be introduced in every country's national immunization programme. Currently, there are four vaccines for rotavirus in the market that are WHO-prequalified. They are RotaTeq, ROTARIX, ROTAVAC, ROTASIL.

- ROTAVAC and ROTASIL were introduced in 2018 making more options available for use.
  - **ROTAVAC was developed in India by Bharat Biotech.**
    - Although ROTAVAC was licenced in India in 2014, it received the WHO prequalification in 2018.
    - It was already in use in India's immunization programme.
    - Now, it is available internationally.
    - ROTAVAC is very cheap as compared to the older vaccines, costing approximately \$1 in India.
    - This is a boon for developing and low-income countries.
    - Palestine became the first country outside India to transition to ROTAVAC vaccine.
  - **ROTASIL was also developed in India by the Serum Institute of India.**
    - It is the very first thermostable rotavirus vaccine to be WHO-prequalified, which could be a real game-changer.
    - Since it can be stored outside the cold chain, this is particularly helpful for countries in sub-Saharan Africa and southern Asia, which typically have low resources.
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