

EXPLAINED: WHAT IS SHIGELLA INFECTION?

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Shigella bacteria | File | Photo Credit: <https://www.cdc.gov/>

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Last week, an 11-year-old boy died in Kozhikode, Kerala due to a [Shigella infection](#). The State Health Department said that six people had been confirmed as having the infection and over 30 people had been treated as suspected cases. The Department of Community Medicine, Government Medical College Hospital, Kozhikode, has [begun an investigation into the outbreak](#).

Shigella is a genus of bacteria that causes an infection called shigellosis. It is the second leading cause of bacterial diarrhea worldwide and the third leading cause of death in children less than 5 years old.

Dr. Balaji Veeraraghavan, Principal investigator at the ICMR surveillance centre for Shigella and Professor with the Department of Clinical Microbiology, Christian Medical College, Vellore explained the infection in an email interview with *The Hindu*.

The annual number of shigellosis episodes throughout the world is estimated to be 164.7 million. About 69% of all episodes and 61% of all deaths are attributable to shigellosis involving children less than 5 years of age.

A multicentric study from six Asian countries (Bangladesh, Sri Lanka, Maldives, Nepal, Bhutan, and Myanmar) estimated Shigella as the causative agent in 5% of the diarrhoeal cases. Among children less than 5 years of age, the incidence was 13 new cases per 1,000 children per year.

Reports of shigellosis from various parts of India have shown an overall isolation rate varying from 3-6% of all stool samples with diarrhea.

As per reports, an estimated annual mortality of 35,000–40,000 is noted globally in both under-five and older-than-five age groups. The availability of age-specific estimates of case fatality due to shigellosis is limited.

Shigella is generally transmitted through contaminated food or water, or through person-to-person contact.

Shigellosis is primarily a disease of poor and crowded communities that do not have adequate sanitation or safe water.

Handwashing is said to reduce shigella transmission by 70%.

Recommended public health control measures are exclusion of ill people with shigellosis from work, food preparation, and childcare.

The incubation period of shigellosis is typically 1–4 days, but up to 8 days with *Shigella dysenteriae* type 1.

Asymptomatic infection can occur, particularly in previously infected individuals. Otherwise, most

illnesses in healthy individuals are mild and symptoms subside in a few days.

In other people, there is progression (within hours to days) to frank dysentery with frequent small stools containing blood and mucus, accompanied by lower abdominal cramps. Patients with severe infection might pass more than 20 dysenteric stools in one day.

The severity of the disease varies by the infecting species:

The cornerstone of shigella treatment is the maintenance of hydration and electrolyte balance.

In young children, oral rehydration with a reduced osmolarity solution is indicated to treat the WHO-defined category of some dehydration and is preferable to intravenous fluids unless severe dehydration is present.

Although shigellosis is primarily self-limiting, antibiotics are recommended for reducing illness duration and for preventing transmission.

The current drugs of choice are third-generation cephalosporins (ceftriaxone or cefixime) and macrolides (azithromycin).

Currently, there are no vaccines available for shigellosis due to their large dependence on the prevailing species and serotypes, as only serotype specific immunity has been demonstrated in humans.

Due to the increasing rate of multidrug resistance, in particular resistance to fluoroquinolone in Asian and African regions, this has been classified as a medium priority for research and development of new and effective antibiotic treatments by the WHO Priority Pathogens List of antibiotic-resistant bacteria.

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For this pandemic period, the company's pricing approach is based on the principle of ensuring broad access and supplies to the governments, a Pfizer spokesperson said in a statement.

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