

# How Swachh Bharat can enhance nutrition, immunity of children

## India News

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There's more to Swachh Bharat than building toilets, washing hands with soap and declaring villages and districts open-defecation free. Clean India is a giant leap towards making the nation disease free, not just from infectious disease like diarrhoea, but also pneumonia and tuberculosis, which are among the leading killers across all age groups.

Three of the top seven causes of disease and death in India — malnutrition, dietary risks and WASH (water sanitation and hygiene) — are directly linked with bad sanitation and poor hygiene practices. Poor sanitation is the leading cause of diarrhoea, malnutrition, cholera, hepatitis A and E (jaundice), worm infestations, typhoid and other enteric fevers, which lead to chronic malnutrition and lowered immunity that further feed the infectious disease cycle.

“Malnourished children are likely to be underweight, stunted and wasted, and are more vulnerable to infections. They are at higher risk of dying of childhood infections, such as pneumonia and tuberculosis,” said Sujatha Rao, former secretary, ministry of health and family welfare. Most malnourishment-related deaths occur in children between the age of nine months and three years.

About 38.4% children are stunted (low height for age) and 35.7% are underweight (low weight for age), according to the National Family Health Survey-4 (2015-16), which was released last year. While the number of stunting and underweight children fell

marginally over the past decade, wasting (low weight for height) went up from 19.8% in 2006 to 21% in 2016.

Improved sanitation and hand-washing practices can stop thousands of these preventable deaths. “Apart from lowering deaths from diarrhoeal diseases estimated to 8,00,000 a year, Swachh Bharat will, if implemented well, improve the nutrition status of children and their overall immunity against infectious diseases for life,” said Rao.

Regular hand-washing with soap is not routinely done in rural India. Only 76% mothers regularly washed their hands with soap after defecation, 53% did so after cleaning the child, and 57% washed their hands before feeding children, found a study of hand-washing practices among mothers of children under 5 years in the rural areas of Kamrup district in Assam in 2016, published in the Journal of Basic and Applied Medical Research.

Along with providing toilets, Swachh Bharat is focusing on providing safe water supply and promoting hygiene practices through campaigns in schools and anganwadis (day-care) centres. “Working sewage-disposal systems, waste disposal management, protection of water supply from contamination and hand-washing practices are essential components of Swachh Bharat targets because you cannot reach one without the other,” said Dr Sinath Reddy, president, Public Health Foundation of India.

Poor sanitation, unsafe water and low public health also increase drug-resistant infections in low-income and middle-income countries, including India, according a study published in Lancet Planetary Health earlier this month. Lowering of antibiotic consumption is not enough because superbugs – bacteria that are resistant to antibiotics used to kill them -- are already in the environment and continue to spread through contaminated food, water and hospital equipment.

The study found resistance to E. Coli bacteria, which causes severe abdominal cramps, bloody diarrhoea and vomiting, fell by 18.6% for every one standard deviation improvement in the infrastructure index, which included sanitation.

“In India, antibiotics overuse is often because it is used to treat diarrhoea and upper respiratory tract infections, both of which can be reduced by improving sanitation, providing clean water, adopting personal hygiene and getting vaccinated,” said study co-author Ramanan Laxminarayan from the Princeton Environmental Institute, University of Princeton in the United States.