That indispensible ingredient in Indian cooking and known equally for its therapeutic properties, the ‘golden spice’ turmeric may not be entirely as benevolent as we once thought, going by a new study by faculty at the Indian Institute of Science here.

Contrary to conventional wisdom about the rhizome, the main molecular component in turmeric, curcumin, actually boosts up certain pathogens such as the typhoid bacteria to fight off the body’s defence mechanism, says a research paper published in the latest edition of PLoS ONE, a scientific journal published by the U.S. Public Library of Science.

In an experiment conducted on mice, scientists found that the Salmonella bacteria (that cause typhoid and other food-borne diseases) grew three times faster when exposed to curcumin. Salmonella proliferated especially in the spleen, liver and mesenteric lymph node, said the paper authored by Sandhya Marathe, PhD student, and Dipshikha Chakravortty, Associate Professor at the Centre for Infectious Diseases Research, Department of Microbiology and Cell Biology at the IISc.

“This data urges us to rethink the indiscriminate use of curcumin especially during Salmonella outbreaks,” the author cautions. Although curcumin is known for its action against several diseases including cancer and Alzheimer’s, and is even sold as tablets over the counter, it “is not a panacea” and that during Salmonella infections “the consumption of curcumin should be avoided,” says the paper.

The scientists hypothesise that the high intake of curcumin could be one of the reasons for the widespread Salmonella infections in Asian countries, where typhoid kills close to five lakh people every year. In certain Asian communities, each person consumes an average of 1.5 gm of turmeric a day (corresponding to 0.03-0.12 gm of curcumin), says the study.

Curcumin activates certain genes in Salmonella, making it more robust and increasing its resistance to its host’s defences such as antimicrobial peptides, the paper says. In 2009, Dr. Chakravortty demonstrated the Salmonella bacteria’s ‘stealthy’ modus operandi to colonise its host’s cells, dodge and finally paralyse the immune system.

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