

# Reducing the Caseload of Salmonellosis Among the General Population

Subhash Chandra Parija<sup>1</sup>, Saurabh R Shrivastava<sup>2</sup>

*SBV Journal of Basic, Clinical and Applied Health Science* (2023): 10.5005/jp-journals-10082-03178

## INTRODUCTION

Salmonellosis has been ranked as one of the most frequent and widely present food-borne diseases, resulting because of the infection caused by *Salmonella*.<sup>1</sup> The global available estimates depict that *Salmonella* has been ranked as one of the four most common causes of diarrheal diseases.<sup>1</sup> Further, it is important to note that close to 4/5th of the total cases of the disease are never recognized as a part of the frequent outbreak that has been reported.<sup>1</sup> In addition, the risk of fatality depends on the host factors (young or elderly) and the strain of the bacteria infecting the individual.<sup>2,3</sup>

## ESSENTIAL CONSIDERATIONS

Humans can acquire the infection in many ways, like consumption of contaminated animal products (predominantly), through other green vegetables, through the feco-oral route, or even after coming in contact with infected animals (domestic and wild), which are often asymptomatic.<sup>2</sup> From the treatment perspective, mild-to-moderate cases do not require the administration of antibiotics as they fail to eliminate the microorganism and even aggravate the risk of resistance.<sup>1,4</sup> Nevertheless, antibiotics can be administered to the vulnerable group (like the elderly, infants, or people with weakened immunity).<sup>4</sup> However, patients with serious illnesses have to be managed with symptomatic therapy, rehydration, and electrolyte support.<sup>1</sup> Moreover, at no stage, antibiotics should be administered indiscriminately, as evidences of antimicrobial resistance have been reported to most of the drugs, and any use of antibiotics should be judicious and need-based.<sup>2,4</sup>

## PREVENTION AND CONTROL

In the global mission to reduce the incidence of the disease, the main impetus should be given to prevention, and hence control measures should be applied at different stages of the food chain, starting right from the production, to processing, manufacture, and even at preparation stage, irrespective of the settings.<sup>5</sup> Farmers should practice good personal hygiene, safeguard the land from animal fecal contamination, utilize treated fecal waste, and ensure that harvest/storage tools are clean and dry.<sup>1</sup> On the other hand, food handlers should also maintain their personal hygiene, compartmentalize raw and cooked foods, practice complete cooking, store foods within a safe temperature range, and employ safe water or raw materials for cooking.<sup>5</sup> In addition, they should be sensitized about healthy practices or avail medical

<sup>1</sup>Department of Microbiology, Sri Balaji Vidyapeeth, Puducherry, India

<sup>2</sup>Department of Community Medicine, Shri Sathya Sai Medical College and Research Institute, Sri Balaji Vidyapeeth, Puducherry, India

**Corresponding Author:** Saurabh R Shrivastava, Department of Community Medicine, Shri Sathya Sai Medical College and Research Institute, Sri Balaji Vidyapeeth, Puducherry, India, e-mail: drshrishri2008@gmail.com

**How to cite this article:** Parija SC, Shrivastava SR. Reducing the Caseload of Salmonellosis among the General Population. *J Basic Clin Appl Health Sci* 2023;6(1):1–2.

**Source of support:** Nil

**Conflict of interest:** None

attention if they suffer from diarrheal or infected skin lesions, to avoid transmission of infection.<sup>1,5</sup>

Furthermore, the general population or travelers should be also made aware about healthy practices, including washing raw fruits or vegetables, boiling drinking water, practicing thorough cooking, and frequent handwashing with soaps (especially after coming in contact with animals or after defecation).<sup>1,2</sup> In addition, the surveillance system should be strengthened to detect and respond to the outbreaks of the disease to avoid their spread.<sup>1</sup> In fact, different international agencies have established food standards or are even assisting national program managers to improve food standards.<sup>1</sup>

## CONCLUSION

To conclude, salmonellosis is an important public health concern affecting the lives of millions of poor and vulnerable people. The only effective way to deal with the challenge is to create awareness among people about the disease and the do's and don'ts related to food processing or preparation, to ensure that no future outbreaks are reported.

## REFERENCES

1. World Health Organization. *Salmonella* (non-typhoidal) – Key Facts; 2018. Available from: [https://www.who.int/en/news-room/fact-sheets/detail/salmonella-\(non-typhoidal\)](https://www.who.int/en/news-room/fact-sheets/detail/salmonella-(non-typhoidal)). Accessed date: 19 November 2022.
2. Shrestha KL, Pant ND, Bhandari R, Khatri S, Shrestha B, Lekhak B. Re-emergence of the susceptibility of the *Salmonella* spp. isolated from blood samples to conventional first line antibiotics. *Antimicrob Resist Infect Control* 2016;5(1):22. DOI: 10.1186/s13756-016-0121-8.

3. Bell RL, Jarvis KG, Ottesen AR, McFarland MA, Brown EW. Recent and emerging innovations in Salmonella detection: A food and environmental perspective. *Microb Biotechnol* 2016;9(3):279–292. DOI: 10.1111/1751-7915.12359.
4. Afema JA, Byarugaba DK, Shah DH, Atukwase E, Nambi M, Sischo WM. Potential sources and transmission of Salmonella and antimicrobial resistance in Kampala, Uganda. *PLoS One* 2016;11(3):e0152130. DOI: 10.1371/journal.pone.0152130.
5. Li Y, Huang T, Bai C, Fu J, Chen L, Liang Y, et al. Reduction, prevention, and control of *Salmonella enterica* viable but non-culturable cells in flour food. *Front Microbiol* 2020;11:1859. DOI: 10.3389/fmicb.2020.01859.