

Typhoid

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Received date: July 16, 2024; **Accepted date:** July 23, 2024; **Published date:** July 30, 2024

Citation: Marium Ahsan, Muhammad Akram, Momina Iftikhar, Tansif Ur Rehman, Francisco Garcia-Sierra, et.al, (2024), Existing and Innovative and Disease Elaborating on Foods versus Drugs, *J Clinical Research Notes*, 5(3); DOI:10.31579/2690-8816/133

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Abstract

Africa and Asia have a significant disease burden due to typhoid fever, an invasive bacterial disease linked to bloodstream infection. Babies and young adults are the target population for typhoid fever. *Salmonella enterica* subsp. *enterica* serovar is the causal agent. Typhi causes an undifferentiated febrile disease by traveling by the fecal-oral pathway, crossing the intestinal epithelium, and spreading to intracellular and systemic locations. When culture tests are available, blood culture is still the practical gold standard for diagnosing typhoid fever; however, the development of novel diagnostic techniques is a top research priority. Since 2017, significant advancements have been made in the definition of the worldwide prevalence of typhoid fever and antibiotic resistance, in the knowledge of disease pathophysiology and immune defense via the use of simulated human illnesses, and in encouraging efficient immunization programs in certain high-incidence priority areas through multi-partner strategic collaboration and focused clinical trials. As such, this Handbook offers a timely update on developments as well as insight into the future goals of the world's scientific community.

Keywords: vaccine of typhoid; prevention of typhoid; symptoms of typhoid; complications of typhoid

Introduction

The multisystemic, feverish illnesses referred to as paratyphoid fever and typhoid fever share the same clinical characteristics and are brought on by *Salmonella enterica* serotypes A, B, and C of Typhi (S Typhi) and Paratyphi (S Paratyphi). (Nag et al.,2024). Known as enteric fever as a whole, the disease affects over 9 million people globally year and results in 110,000 deaths. Enteric fever is the most frequent cause of community-acquired bloodstream infections in South and Southeast Asia. (Kothari et al.,2008). The second most prevalent cause of serious and often fatal diseases among tourists is malaria, followed by enteric fever. This is a disease that has been reported in the United States and many other wealthy nations. Enteric fever gradually develops over the course of six to thirty days of incubation, presenting with fever, malaise, headache, fatigue, and stomach pain. Inadequate or delayed treatment can result in meningitis, sepsis, or intestinal perforation. Due to the widespread use of successive medications, S. Typhi

and S. Paratyphi strains have a history of rapidly developing antibiotic resistance. As a result, the current appearance of extensively drug-resistant bacteria has complicated treatment and raised concerns. The vectors of S. Typhi and S. Paratyphi are believed to be the "4 Fs": flies, fingers, feces, and fomites. They have an impact on people who live in or travel to low- and middle-income countries where there is insufficient access to WASH (clean water, sanitation, and hygiene). Enhancing WASH infrastructure is the first step towards reducing the incidence of enteric fever and other diseases transmitted through the fecal-oral pathway. In contrast, traditionally more money and focus have been directed into the "big three"—malaria, tuberculosis, and the HIV/AIDS pandemic—than toward enteric fever. But with the potential for future incurable mutations, there's a new emphasis on managing enteric fever. Newly developed typhoid conjugate vaccines, improved surveillance, a better understanding of antibiotic resistance

patterns, and WASH initiatives have all contributed to a drop in the illness burden. Epidemiology, pathophysiology, management, therapy, complications, patient education, preventative strategies, and the role of the interprofessional team in enhancing patient care and reducing the illness burden are all covered in this activity. Although there are a number of obstacles in the way of managing this illness, new developments offer optimism that the effects of enteric fevers may eventually be reduced or completely eradicated. Numerous subjects are covered in this exercise, such as epidemiology, pathophysiology, therapy, treatment, complications, patient education, preventive measures, and the interprofessional team's role in enhancing patient care and reducing the burden of disease (Girard et al.,2006). Although treating this illness presents a number of difficulties, recent developments offer optimism that the effects of enteric fevers may soon be reduced or completely eradicated (Kothari et al.,2013)

Vaccine of typhoid

There are two vaccines that can shield against the typhoid virus. There are two types of vaccines: live attenuated (weakened) and inactivated (killed). You can choose the most appropriate typhoid vaccine for yourself with the assistance of your healthcare expert. The inactivated typhoid vaccination administered intravenously (Guzman et al.,2006)

Complications of typhoid

The two most common outcomes are typhoid fever and internal bleeding in the digestive tract. Colon or digestive tract splintering, or perforation, that permits the infection to spread to neighboring tissue (WOODWARD et al.,1964)

Prevention of typhoid

Having access to clean water and adequate sanitation, washing your hands frequently, and receiving a typhoid vaccination are all effective measures to prevent the illness (Steinberg et al.,2004)

Symptoms of typhoid

Patients with typhoid fever have bacterial contamination in their blood and digestive tracts. Constipation or diarrhea, headaches, nausea, vomiting, and a persistently high fever are a few of the symptoms. There are those who tend to behave carelessly (Nsutebu et al.,2003)

Conclusion

In conclusion, a number of variables have impacted the typhoid fever outbreak in Pakistan. This includes the existence of XDR typhoid strains, the COVID-19 outbreak and its treatment with antibiotics, socioeconomic inequalities, and low literacy rates. The EPI program and the introduction of TCV have somewhat solved these concerns. Nonetheless, further immunization campaigns, telehealth, and awareness campaigns are necessary to improve the situation even further.

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DOI:10.31579/2690-8816/133

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