

## Enteric fever in Sri Lanka since 1902 – A narrative review

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### Abstract

Enteric fever is a systemic illness endemic in Sri Lanka and composes of both typhoid and paratyphoid fevers caused by *Salmonella* Typhi (S.Typhi) and *Salmonella* Paratyphi A (S.Paratyphi A), respectively. The global estimated cases of typhoid fever in 2017 was approximately 10.9 million with 117,000 deaths and 3.40 million cases of paratyphoid cases with 19000 deaths. The clinical presentations range from mild to severe, which could even result in death. The gold standard for diagnosis is bone marrow or blood culture. The rise in the resistance to antibiotics is a major concern. Since enteric fever is endemic in Sri Lanka and is a notifiable disease, this narrative review on available papers on enteric fever in Sri Lanka from 1900 to 2021 was conducted. It was found that the first case of typhoid was reported in Boer prisoners of war brought to Diyatalawa in 1902. After that, many outbreaks were reported, which were linked to lack of sanitary facilities, lack of potable water, carriers in food establishments, and defecation in open fields. In the Western province, Kandy and Ratnapura, a shift in the causative organism from S.Typhi to S.Paratyphi A was seen. In Jaffna S.Typhi still dominates. Rare complications of enteric fever, namely Guillain – Barre syndrome, acute disseminated encephalomyelitis, cholestatic hepatitis, endocarditis, acute liver failure with encephalopathy, splenic infarction, and spontaneous rupture, microscopic haematuria, “Comma vigil” a neuro-psychiatric complication, and typhoid bowel perforation were reported. Resistance to chloramphenicol, ampicillin, unasin, co-amoxiclav, mecillinam, ceftriaxone, cefotaxime, ceftazidime, sulphonamides, co-trimoxazole, chloramphenicol, nalidixic acid, ciprofloxacin, amikacin, and azithromycin was seen. In 2017, Extended Spectrum Beta-Lactamase producing S.Typhi had been isolated. The baseline cut-off values for Widal antibody titres were determined, with the most recent study giving a cut off of 80 for both O antibody and AH antibodies and 160 for H antibody level. Nested PCR methods have been developed to diagnose typhoid fever, and an indirect ELISA which detect salivary anti salmonella lipopolysaccharide IgA to S.Typhi was developed. Since 1902, typhoid fever has caused many outbreaks in the country. However, a decline in the number of cases is seen throughout time which could be as a result of improved hygiene practices and access to safe drinking water. The century-old Widal test is still being used to diagnose enteric fever. However, it’s advisable to always perform blood culture for the diagnosis of enteric fever along with antibiotic sensitivity testing due to the rise in antibiotic resistance in Salmonella.

**Keywords:** Enteric fever, paratyphoid, Sri Lanka, typhoid

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