

**Clinical Profile of Typhoid Fever in Children at a Tertiary Care Hospital****Suvarna P Reddy<sup>1</sup>, Nikitha Sowmya<sup>2</sup>, Chaitra Ramesh Chavan<sup>3</sup>, Suresh C M<sup>4</sup>, Bellara Raghavendra<sup>5</sup>**<sup>1</sup>Assistant Professor, Department of Pediatrics, Vijayanagar Institute of Medical Sciences, Ballari, Karnataka<sup>2</sup>Assistant Professor, Department of Pediatrics, Ambedkar Medical College, Bengaluru, Karnataka<sup>3</sup>Post Graduate, Department of Community Medicine, Vijayanagar Institute of Medical Sciences, Ballari, Karnataka<sup>4</sup>Associate Professor, Department of Community Medicine, Vijayanagar Institute of Medical Sciences, Ballari, Karnataka<sup>5</sup>Professor, Department of Community Medicine, Vijayanagar Institute of Medical Sciences, Ballari, Karnataka

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**Abstract:****Introduction:** Typhoid fever is one of the most frequent infectious disorders in humans, with fever lasting more than 7 days. It is transmitted through the faeces and is frequent in regions with poor sanitation. This study was done to describe the clinical profile among children with typhoid fever.**Materials and Methods:** A retrospective case record analysis of 100 hospitalized patients aged 1 to 15 years who were discharged with typhoid fever was conducted in a tertiary care institution. The case records contained information about the patients, such as their age and gender, mode of clinical presentation and response to treatment. The data was entered and analyzed with SPSS version 19. The data has been summarized using percentages.**Results:** Of the 100 patients, 53 (53%) were male and 47 (47%) were female. Most of the patients were between the ages of six and ten. The most prevalent symptom was fever (100%), followed by anorexia (58%), vomiting (42%), abdominal discomfort (22%), diarrhea (20%), headache (15%), and cough (9%). In terms of physical findings, the most prevalent sign we found was a coated tongue (50%), followed by hepatomegaly (47%), and splenomegaly (19%).**Conclusion:** Fever, anorexia, vomiting, coated tongue, and hepatomegaly was the most common clinical manifestations of typhoid fever in our study. It is critical to get an early clinical diagnosis and utilize antibiotics rationally. Prevention requires improved hygiene, vaccination, and public knowledge.**Keywords:** Clinical profile, Typhoid fever, Blood culture, Widal test, Hepatomegaly.

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**Introduction**

Typhoid fever is a systemic bacterial infection caused by *Salmonella enteric* serotypes Typhi, Paratyphi A, or B.[1] Symptoms may range from moderate to severe. A high fever usually develops gradually over several days. Weakness, stomach discomfort, constipation, and headaches are other typical complaints. Because Typhoid fever is spread by the feco-oral route, it is most prevalent in resource-limited nations with inadequate water supply and sanitation. In India's clinical practice, Typhoid fever is the most common cause of fever lasting more than 7 days.[2] In wealthy countries, the incidence of typhoid fever is less than 15 cases per 100,000 people, with the majority of cases occurring in travelers; in developing countries, the estimated incidence rate ranges from 100 to 1,000

cases per 100,000 people.[3] Fever lasting more than 7 days is the most common clinical symptom of Typhoid fever, affecting almost all patients. [4] Other symptoms include vomiting, headache, abdominal discomfort, and diarrhea, in addition to clinical indicators and hepatosplenomegaly.[5,6] Clinical aspects of typhoid and paratyphoid fever are largely similar, however paratyphoid infection is typically milder.[5] Rose spot, spherical, non-pruritic, erythematous papules ranging in size from 6 to 12 in number, are most commonly observed on the trunk in typhoid fever; however, such Rose Spot are discovered in substantially greater numbers in paratyphoid fever.[7] This disease is most commonly observed in school-aged children and the elderly, but it is less prevalent in infants

and preschoolers.[8] Although blood culture is the gold standard for diagnosing typhoid illness, the Widal test is the most widely utilized in underdeveloped nations.[9] The Widal test, a commonly used serodiagnostic procedure, detects antibody titres to somatic 'O' and flagellar 'H' antigens. Although the Widal test's overall sensitivity is around 70-80%, its specificity is between 80-95%. [9,10]

To rule out alternative causes of fever and support clinical diagnosis, there has been a great need to perform research on the normal and atypical presentations of typhoid fever in the pediatric population. As a result, we undertook this study to learn more about the clinical presentation of this condition.

#### Materials and Methods:

This is a retrospective observational study that was conducted at a tertiary care hospital's Pediatric Department after receiving approval from the institutional ethics committee. Our study included the records of all children aged 1 to 15 years who

were diagnosed with typhoid fever at our hospital within a year. The study only included cases of culture-positive typhoid fever. This study comprised 100 of the 324 clinically suspected patients reported to the hospital throughout the study period who tested positive for Salmonella typhi.

The study eliminated cases of typhoid fever diagnosed solely through clinical examination and the Widal test. The case records contained information about the patients, such as their age and gender, mode of clinical presentation, complications, and response to treatment. The data was entered and analyzed with SPSS version 19. Data has been summarized with percentages

#### Results:

Case records of children discharged with a diagnosis of Typhoid fever were reviewed, and 100 children aged one to 15 years were included in the study. Of the 100 children that tested positive for Salmonella typhi, 53 (53%) were boys and 47 (47%) were girls as shown in Table 1.

**Table 1: Sex wise distribution of children**

Sex	Frequency (n)	Percentage (%)
boys	53	53
Girls	47	47

Out of a total of 100 patients, 46 (28%) were aged 1 to 5 years, 80 (49%) were aged 6 to 10 years, and 38 (23%) were aged 10 years or older. Majority of the patients were (49%) in the age group of 6-10 years as shown in Table 2

**Table 2: Age wise distribution of children**

Age (years)	Frequency (n)	Percentage (%)
1-5	26	26
6-10	47	47
11-15	27	27

Typhoid fever exhibits a variety of symptoms. In our study, fever was the most common symptom (100%), followed by anorexia (58%), vomiting (42%), abdominal discomfort (22%), diarrhea (20%), headache (15%), and cough (9%). In terms of physical findings, the most prevalent sign we found was coated tongue (50%), followed by hepatomegaly (47%), and splenomegaly (19%), as shown in Table 3.

**Table 3: Clinical features of Typhoid fever in children**

Clinical features	Frequency (n)	Percentage (%)
Fever	100	100
Anorexia	58	58
vomiting	42	42
Abdominal pain	22	22
Diarrhoea	20	20
Headache	15	15
Cough	9	9
Coated tongue	50	50
hepatomegaly	47	47
splenomegaly	19	19

All patients received Inj. Ceftriaxone. Out of them, 88 (88%) responded to the medicine. When a patient remained feverish after five days of injectable ceftriaxone, oral Azithromycin was prescribed in 12 (12%) cases. Table 4 shows that almost all patients were discharged on Oral Cefixime following a 24-hour febrile stay in the hospital.

**Table 4: Antibiotics used in Typhoid fever**

Antibiotics given	Frequency (n)	Percentage (%)
Inj.Ceftraixone alone	88	88
Inj.Ceftriaxone+oral azithromycin	12	12

### Discussion

Enteric fever was more prevalent in the age range of 11 to 15 years (n=43) than in the age group of 1-5 years (n=17). R Modi et al. reported the highest incidence of typhoid in the age group of 6 to 10 years. [11] Modi R conducted a study in a teaching hospital in Ahmedabad, Gujarat, and found that children aged 6 to 10 years were the most common age group to present with enteric fever.[12]

In the current study, enteric fever was more common in men (61.3%, n=49) than in women (38.8%, n=31). Similar findings were reported in a hospital-based study conducted by Jeeyani et al. in Ahmedbad, India. [13] Another study conducted by Malla et al. at Manipal Hospital revealed a male prevalence.[14] Modi R's study found that gastrointestinal problems were the second most common after fever, with abdominal discomfort reported in 57.14% of patients and vomiting in 50%.[15] Similar findings were reported by Comeau et al., Kapoor JP et al., and Sinha et al.[16,17,18]

It was discovered that 86% of typhoid fever patients became afebrile within 6 to 7 days of receiving Ceftraixone. To treat typhoid fever, only 14% of patients required oral azithromycin in addition to intravenous ceftriaxone. S Jog et al. reported that 62.1% of typhoid fever patients were treated only with Inj. Ceftraixone, while 13.4% were treated with a combination of Inj. Ceftraixone and Azithromycin.[19]

### Conclusion

Typhoid fever is a prevalent cause of febrile sickness in children. The most prevalent clinical signs of Typhoid fever included fever, stomach pain, vomiting, diarrhoea, coated tongue, and hepatomegaly.

It is critical to diagnose the disease early and administer antibiotics responsibly. Typhoid fever in children can be avoided by drinking clean water, washing their hands frequently, maintaining good hygiene, and receiving vaccinations at a young age.

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