

# **Pediatric Enteric Fever Caused by *Salmonella Enterica* Among Pediatric Patients: An Insight of Antimicrobial Susceptibilities from Nepal**

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**Background:** Enteric fever is a serious illness of young children in developing countries of the tropics and subtropics with substantial mortality and morbidity. However, treatment became more difficult for such patients due to lack of standardized treatment protocols and increasing resistance to commonly used antimicrobial agents. In this study, we investigated the common serotypes of *Salmonella enterica* involved in pediatric enteric fever cases and analyzed their antimicrobial susceptibilities towards common antimicrobials.

**Methods:** A cross-sectional study was carried out among the pediatric patients of Manmohan Memorial Teaching Hospital, Kathmandu over a period of six months. A total of 960 blood samples collected from the febrile children suspected of suffering from enteric fever were cultured using standard microbiological techniques. Antibiotic susceptibility testing of the *Salmonella enterica* isolates against common therapeutic antimicrobials was performed by Kirby Bauer disk diffusion technique following Clinical and Laboratory Standards Institute guidelines. Minimum inhibitory concentration of ciprofloxacin and nalidixic acid was determined by agar dilution method.

**Results:** About 5.1% of febrile children were suffered from *Salmonella enterica* associated enteric fever. Out of total 49 *Salmonella enterica* isolated, 27(55.2%) were *Salmonella* Paratyphi A and 22 (44.8%) were *Salmonella* Typhi. In antimicrobial susceptibility, all of them were susceptible to chloramphenicol and co-trimoxazole and about 85.8% of the isolates were susceptible to ampicillin. However, 42(85.8%) isolates were resistant to nalidixic acid and 14.28% of the isolates were susceptible to ciprofloxacin. Fortunately, none of the isolates were multidrug resistant.

**Conclusions:** *Salmonella* Paratyphi A is the most common agent responsible for pediatric enteric fever cases. However, decreased susceptibility of fluoroquinolones and increase in NARS strains states the inappropriateness of common empirical therapy. Promising susceptibilities towards conventional first line agents including ampicillin, cotrimoxazole and chloramphenicol is considered to be renaissance of these drugs to treat the enteric fever cases in pediatric patients.