Background

Resistance to extended-spectrum cephalosporins (ESC) in Enterobacteriaceae is a growing concern in children but little data has been reported for species other than E. coli and K. pneumonia. We aimed to describe the clinical, microbiological, and molecular characteristics of ESC-resistant infections in children caused by Enterobacteriaceae other than E. coli and K. pneumonia.

Methods

- **Subjects and Study isolates**: ESC-resistant Enterobacteriaceae isolates recovered from normally sterile sites (including stool for Salmonella and Shigella) of patients aged ≤21 years.

- **Clinical and Hospital Data**: Associated clinical data were obtained for all isolates via medical record review.

- **Laboratory Methods**:
  - Upon arrival, species were identified using Vitek 2 with Advanced Expert System.
  - Associated clinical data were obtained for all isolates via medical record review.
  - **Co-resistance (4)**: Overall, resistance to trimethoprim-sulfamethoxazole (TMP/SMX), gentamicin, and ciprofloxacin occurred in 32%, 23%, and 6% of these ESC-resistant isolates, respectively.

Conclusions

- Overall, 9% of ESC-resistant infections in children were caused by Enterobacteriaceae species other than E. coli and K. pneumonia.
- **ESBL or AmpC phenotypes and determinants were common among these isolates**. Enterobacteriaceae were tested for susceptibility to ampicillin, amoxicillin, cefazolin, and clavulanic acid, cefepime, and ceftaxime.