



A BRAZILIAN SURVEY OF THE ANTIMICROBIAL SUSCEPTIBILITY OF 847 ESCHERICHIA COLI ISOLATES FROM URINARY TRACT INFECTIONS

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Background and Aims:

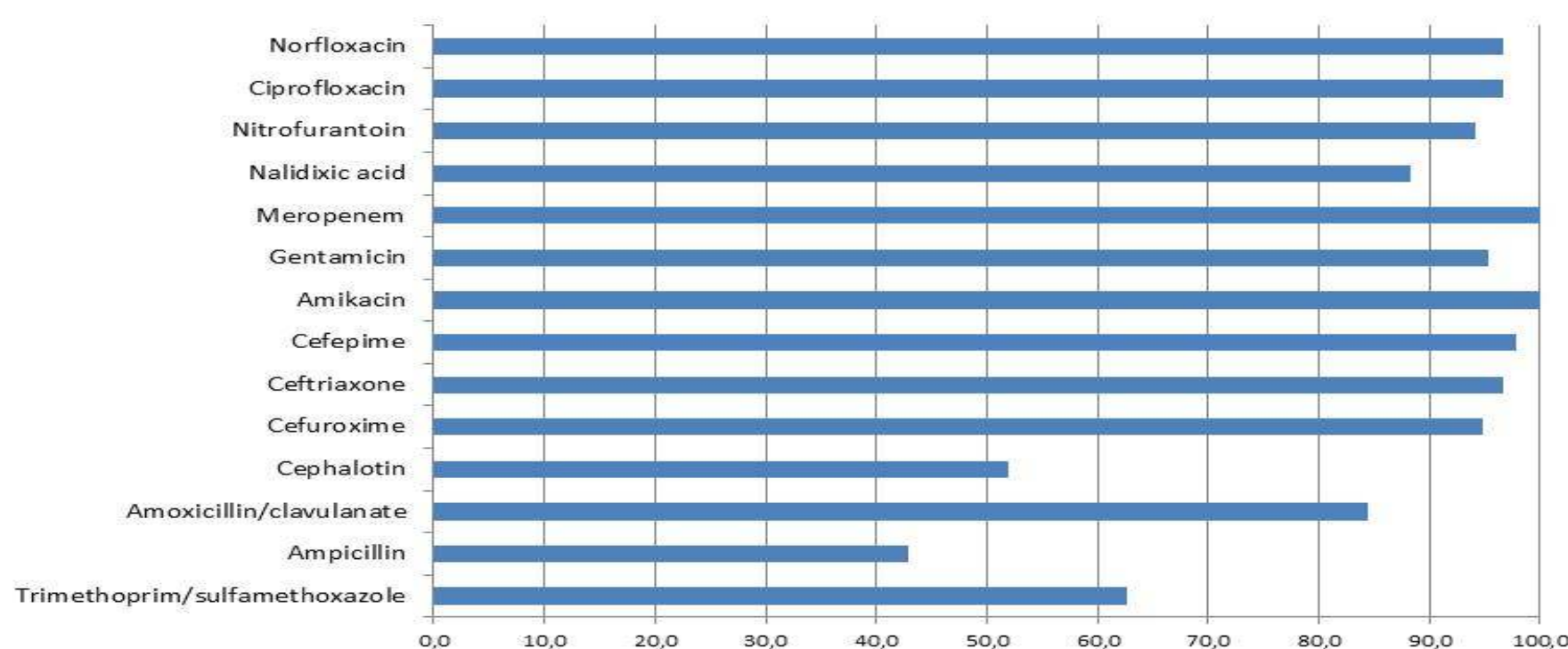
Escherichia coli is the primary etiology of urinary tract infection (UTI). Strains of extended-spectrum beta-lactamase (ESBL) are an issue that makes treatment with penicillins and cephalosporins unfeasible. We aim to describe the antimicrobial susceptibility profile of *E.coli* isolates from community UTI and the prevalence of ESBL-producing *E.coli*.

Methods:

Retrospective study of antimicrobial susceptibility and prevalence of UTI caused by ESBL-producing *E.coli* strains, diagnosed in a community Brazilian Pediatric Emergent Department (ED). We included children and adolescents under 15 years-old, seen in the ED from 2013 to 2017. UTI was defined as bacteriuria of a single species of at least 50,000 colony-forming units (CFU)/mL in catheter sample or at least 100,000 CFU/mL in a midstream sample.

Results:

We found 847 cases of UTI by *E.coli*; 18 ESBL-producing strains (2.1%). The antimicrobials that showed sensitivity above 80% were: amoxicillin/clavulanate-84.5%; cephalosporins of second, third and fourth generation (cefuroxime-94.8%, ceftriaxone-96.7%, cefepime-97.8%); aminoglycosides (gentamicin-95.4%, amikacin-100%); meropenem-100%; nalidixic acid-88.3%; nitrofurantoin-94.2%; quinolones (ciprofloxacin-96.6%, norfloxacin-96.6%). Antimicrobials commonly used in clinical practice that presented low antimicrobial sensitivity were: ampicillin-42.9%; cephalothin-51.9% and trimethoprim/sulfamethoxazole-62.6%



Antimicrobial susceptibility of 847 *Escherichia coli* isolates from community-acquired urinary tract infection in Brazil

Conclusions:

UTI due to *E.coli* from Brazilian community patients under 15 years-old has low susceptibility to ampicillin, first-generation cephalosporin and trimethoprim/sulfamethoxazole. Second and third generation cephalosporins, amoxicillin/clavulanate and aminoglycosides, are still suitable for empiric treatment. Quinolones, although excellent sensitivity is not the therapy of choice for the pediatric age group. Nalidixic acid and nitrofurantoin are good options for cystitis. It is essential to monitor the prevalence of *E.coli* strains producing ESBL, currently 2.1% in our community.