

TITLE: PREVALENCE AND ANTIMICROBIAL RESISTANCE AMONG *ENTEROBACTERIACEAE* ISOLATED FROM URINARY TRACT INFECTION IN A TEACHING HOSPITAL IN LAGARTO, SERGIPE, BRAZIL

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ABSTRACT:

The high rates of antimicrobial resistance among *Enterobacteriaceae* isolated from hospitalized patients with urinary tract infection (UTI) are a challenge because it decreases empirical treatment options. Antimicrobial resistance pattern of bacterial pathogens varies according to geographical areas, variations in infection control programs, different empiric antibiotic prescribing guidelines, and even over time. This study is therefore, aimed to assess the prevalence and antimicrobial resistance pattern of *Enterobacteriaceae* isolated from UTIs in a teaching hospital in Lagarto, Sergipe, Brazil. From September to December 2019, a cross sectional prospective study was conducted with urine samples obtained from 54 symptomatic UTI suspected patients. All *Enterobacteriaceae* isolates were identified using biochemical tests. Disk diffusion method was used to determine the antimicrobial resistance patterns of isolates. Out of 54 urine samples, 11 (20.4%) samples were positive (growth $\geq 10^5$ CFU/mL). Of these isolates, 54.5% were non-fermenting Gram-negative bacilli (NFGNB) and 45.5% were *Enterobacteriaceae*. *Escherichia coli* were the most prevalent (60%) enterobacteria, followed by *Klebsiella* spp. and *Enterobacter* spp. (20%, each). Antimicrobial susceptibility testing demonstrated that 100% of *Enterobacteriaceae* strains were resistant to Amoxicillin/Clavulanate and Ampicillin, 60% to Cefepime, Cefotaxime, Ceftriaxone, Ciprofloxacin, and Sulfamethoxazole/Trimethoprim. All *Enterobacteriaceae* were sensitive to Aztreonam, Amikacin, Gentamicin and Tobramycin. High-level of resistance to β -lactam antibiotics is alarming, because can be conferred by Extended spectrum β -lactamase (ESBL) and/or carbapenemase-producing *Enterobacteriaceae*. These results may contribute to the empirical choice of more effective antimicrobials and guide actions of hospital infection control programs.

Keywords: healthcare-associated Infections, drug resistance, *Escherichia coli*

Development Agency: not applicable