

ANTIMICROBIAL SUSCEPTIBILITY OF *Shigella* spp. STRAINS ISOLATED IN FORTALEZA, CEARA, BRAZIL

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Shigella is a major cause of dysentery throughout the world. The high antimicrobial resistance has been a concern for disease control. This study aimed to characterize *Shigella* strains regarding to antimicrobial susceptibility to a large group of drugs. *Shigella* strains were isolated from children belonged to previous epidemiologic studies performed in Fortaleza-CE, Brazil, between 2010 and 2014, and were derived from the collections of the Institute of Biomedicine for Brazilian Semiarid. Standard microbiological methods followed by immunoagglutination assay were used for identification of *Shigella* spp.. Antimicrobial susceptibility tests were performed using the Kirby-Bauer disk diffusion method. Mueller-Hinton agar plates were used with the following antimicrobial discs commercially available: ampicillin (AMP), amikacin (AK), amoxicillin/clavulonate (AMC), azithromycin (AZT), ceftriaxone (CRO), cefuroxime (CEP), cephalothin (CEF), ciprofloxacin (CIP), chloramphenicol (CLO), gentamicin (CN), nalidixic acid (NA), sulfamethoxazole/trimethoprim (SXT) and tetracycline (TET). Intermediate zones were interpreted as resistant for analysis. Resistance to at least one drug was observed in 100% of the isolates. The highest resistance rate was detected to SXT (80.9% - 17/21), followed by CEF (76.1% - 16/21), AMP and AZT (71.4% - 15/21, for both). There was moderate to low resistance to TET (38.1% - 8/21), AMC (36.8% - 7/19), CLO (9.5% - 2/21), AK, CRO and CN (4.7% - 1/21, for each one). All strains were sensitive to CIP, CRO and NA. Regarding to multi-drug resistance patterns, 85.7% (18/21) of *Shigella* strains were resistant to more than two antimicrobials, being 27.8% (5/18) and 38.9% (7/18) resistant to three (being SXT+TET+CEF the most frequent pattern) and four drugs (being SXT+TET+CEF+AZT the most frequent pattern), respectively. This study shows high rates of multidrug resistance in *Shigella* strains circulating in Fortaleza-CE, Brazil. All *Shigella* strains were resistant to at least one antimicrobial tested, observing high resistance rates to STX, CEF, AMP and AZT and elevated rates of multidrug resistance patterns.

Keywords: *Shigella* spp., antimicrobial susceptibility, multidrug resistance

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