

TITLE: HENOTYPICAL CHARACTERIZATION OF STRAIN OF *Escherichia coli* CIRCULANTS IN THE CITY OF ARACAJU-SE

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ABSTRACT:

Escherichia Coli is characterized as an ideal indicator for fecal contamination in both food and water. Due to the discrete cases of diarrheal diseases in humans in Brazil and considering the existence of potentially pathogenic *E. Coli*, it is necessary the phenotypic characterization in order to obtain data of the strains. Thus the present work aimed to characterize phenotypically *E. Coli* strains isolated from several sites in the city of Aracaju. For this purpose, 36 microbial lines were used. was checked The antimicrobial susceptibility profile for disc diffusion, physiological growth profile and biofilm formation capacity were measured by spectrophotometry. In the growth tests at different pH (5 to 11) and temperatures (22 ° C, 27 ° C, 30 ° C, 36 ° C and 40 ° C), all the strains obtained excellent growth, demonstrating a great survival capacity. For the TSA tests, only two strains showed sensitivity to all antimicrobials, being an isolate of channel water and one isolate of pasteurized milk. It is important to note that all strains isolated were sensitive to meropenem. The lineages of the channels stand out because they presented resistance to all antibiotics tested, with the exception of meropenem. In relation to the resistant strains against the antibiotics tested, we highlight those originating from channels since 58.9% were resistant to ampicillin and 35% to amoxicillin + clavulanate and ciprofloxacin. Lake Orients presented 33% compared to ciprofloxacin and amikacin. Already isolated from milk, 28.5% compared to amoxicillin and clavulanate, and 14% for other antibiotics and, finally, from beef, 71% compared to cephalothin and 57% resistant to cefoxitin, cefuroxime and ampicillin. All isolates tested were able to adhere and form biofilms. The highest number of strains that showed strongly adherent biofilm formation was concentrated in the isolates of water samples from lakes (100%), water from rivers (100%) and samples of pasteurized milk (100%), followed (85.72%) and strains of ground beef (85.72%). It is concluded that the existence of *E. coli* with pathogenic and biofilm-forming potential poses a risk to consumer / user health. Already the occurrence of circulating lines with profiles resistant to antimicrobials corroborates to a severe public health problem.

Keywords: *Escherichia coli*, microbial adhesion, resistance, sensitivity, biofilm

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