

**Title: GENOTYPIC CHARACTERIZATION OF DIARRHEAGENIC *Escherichia coli* FROM WATER SAMPLES FOR HUMAN CONSUMPTION OF LONDRINA CITY, PR.**

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**Abstract**

Water is an essential resource for sustaining life on Earth, but in recent years its quality has been compromised by inadequate sewage disposal in rivers and springs what it is be able to contaminate several people. Among the various microorganisms found in contaminated water highlight *Escherichia coli* bacterium. Although commensal, some strains of this species may cause gastroenteritis, thus these strains represent a major causative agent of diarrhea in children and adults in developing countries. So, this study aims to evaluate genotypically 500 *E. coli* strains to determine the presence of virulence genes (*eae*, *bfp*, *stx1*, *stx2*, *aggR* and *ipaH*) associated with the main groups of diarrheagenic *E. coli*: EPEC (enteropathogenic *E. coli*) typical and atypical, STEC (Shiga toxin-producing *E. coli*), EAEC (enteroaggregative *E. coli*) and EIEC (enteroinvasive *E. coli*) by Polymerase Chain Reaction (PCR) technique. These isolates were obtained from 250 drinking water samples in the years 2012 to 2014, in Londrina city, state of Paraná, Brazil. Of the 250 water samples analyzed eight (3.2%) were positive for *eae* gene and negative for *bfp* gene, therefore classified as atypical EPEC. Four samples (1.6%) were positive for *ipaH* gene being included in EIEC pathotype. Three samples (1.2%) were classified as STEC and of these samples; two were positive for *stx1* sequence and positive for *stx1* and *stx2* sequences. None had the *aggR* gene, thus negative for EAEC pathotype. Under these circumstances, according to the results found hope awareness both population and public agencies of the importance of microbiological control of water supplied to the population to prevent infectious disease outbreaks related to diarrheagenic *E. coli* on water from the public water supply systems in the region of Londrina, Paraná.

**Keywords:** water, diarrheagenic *Escherichia coli*, PCR.

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