

Title: ANTIMICROBIAL SUSCEPTIBILITY AND DIARRHEAGENIC *ESCHERICHIA COLI* STRAINS AMONG CHILDREN IN THE REGION OF ABC PAULISTA

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Abstract:

Diarrheagenic *Escherichia coli* common etiological agent of cases and outbreaks of foodborne diarrheal illnesses. The emergence and spread of *E. coli*, which has become multi-drug resistant, and clearly represents public health concern. The aim of this study was to determine the prevalence of *E. coli* in young children with diarrhea and in healthy control subjects, geographically located in the same area of ABC Paulista, during 3 months in 2015. Stool samples were transported at room temperature in a Cary Blair medium, inoculated on selective, specific and chromogenic culture medium. The identification of etiologic agents was performed by conventional microbiological analyses, immunomagnetic separation with magnetic beads coated with antibody against *E. coli* 0157, multiplex PCR, and antimicrobial susceptibility testing. Diarrheagenic *E. coli* was identified in 13 out of the 59 (22.0%) stool samples analyzed, 7 of 13 (53.8%) were positives cases and 46.2% controls. Diarrheagenic *E.coli* was most frequently observed in female children from 7 to 24 months old. The categories of *E. coli* isolated were enteropathogenic *E. coli* (EPEC) (9 of 13, 69.2%), enteroaggregative *E. coli* (EAEC) (15.4%), one enterotoxigenic *E. coli* strain and one infant case presented two different categories of *E. coli*, EPEC and EAEC; Enterohemorrhagic *E.coli* and enteroinvasive *E. coli* have not been isolated in neither the cases nor in the controls. Seven of the 13 (53.8%) diarrheagenic *E. coli* were sensitive to all the 15 antimicrobial agents tested, while 30.8% of them were resistant to at least one drug, and 15.4% presented intermediate resistance. The antimicrobials to which resistance was most frequently observed were tetracycline and ampicillin (50%, respectively). EPEC was the most predominant category of *E. coli* associated with diarrhea in children under 22 months in the region of ABC Paulista. The highest frequencies of susceptibility to antimicrobial agents were observed among *E. coli* strains, however, resistance also was observed.

Key Words: Prevalence, *Escherichia coli*, Diarrhea, Children

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