

TITLE: SURVEILLANCE OF ANTIMICROBIAL RESISTANCE IN *ESCHERICHIA COLI* ISOLATED FROM URINARY TRACT INFECTIONS OF OUTPATIENT

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ABSTRACT:

The objective is the search of results that contribute to the elaboration of a methodology for the implementation of an UTI surveillance program in the South of Brazil. The research takes place as outpatients in the clinical laboratory of Chapecó. The results of this summary were collected from July 2015 to June 2016. To assist in the implementation of public policies, from July 2015 to June 2020, the resistance profiles of bacteria in UTI will be identified, and situations where contamination of urine samples may occur during harvesting. We analyzed the resistance to antimicrobials and bacterial genera, seasonality in the incidence of infections, sex of patients, incidence of UTI in pregnant women and children. For the antibiogram was used Vitek system for automatic identification. For Gram-negative bacteria, the AST-N238 and Gram-positive AST-P585 cards were used. For the control in the antimicrobial susceptibility test in *E. coli*, strain ATCC 25922 was used. In the standardization of the results the Clinical and Laboratory Standards Institute (2015) was used. It was 14487 urine samples were collected, 1964 (14%) were positive. There were 1687 (85.5%) infections in women and 1584 were caused by Gram-negative (86%). There were 64 infections in children, 32 (3.2%) in girls and 32 in boys. In pregnant women 212 cases (10.8%) occurred, 203 were caused by Gram-negative (96%). In winter, 779 (39%) cases occurred. *E. coli* prevailed in 1367 (76%) patients. These results presented a statistical significance of $p < 0.05$. Of the patients, 179 had two infections during the year, 41 to three, 16 to four, 5 to five, 2 to six and 1 to seven infections. Of the pregnant women, 12 had more than one infection. The profile of antimicrobial resistance in *E. coli* was trimetoprim sulfametaxazol 25%, nalidixic acid 19%, ciprofloxacin 10%, cefalotin 10%, norfloxacin 8%, cefazolin 8%, chloramphenicol 6%, nitrofurantoin 5%, levofloxacin 5%, meropenem 4%, cefuroxime axetil 4%, cefoxime 4%, ceftiofloxacin 3%, ceftriaxone 3%, cefepim 2%, amoxicillin/ clavulanic acid 2%, ertapenem 1%, piperaciline tazobactam 1% and imipenem 0%. Resistance to critically important antimicrobials for human health in *E. coli* was low. However, the excessive number of recurrent infections demonstrates that there is a need for investments in education of health professionals in guiding patients, to aim the reduction of infections and contamination of the samples, and rational use of antimicrobials.

Keywords: urinary tract infections,outpatient, antimicrobial resistance, surveillance

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