

TITLE: OCCURRENCE AND ANTIMICROBIAL RESISTANCE OF *ESCHERICHIA COLI* ISOLATED FROM POULTRY MEAT COMMERCIALIZED IN THE FEDERAL DISTRICT, BRAZIL

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ABSTRACT:

E. coli infection is one of the main diseases of modern industrial poultry and thus causes great economic damage worldwide. Due to the high prevalence of colibacillosis, antibiotic therapy has been abusively adopted in poultry production, and consequently the resistance of several *E. coli* serotypes to various antimicrobials has been recorded, causing public health concerns. Thus, this study aimed to evaluate the occurrence and the antimicrobial resistance of isolated *E. coli* bacteria in chilled chicken meat marketed in the Federal District. Thirty-two samples of chicken meat were analyzed, weighing 25 g of each sample in 225 mL of 0.1% peptone water (w/v). The samples were inoculated in Lauryl Sulphate Tryptose broth, at 37°C for 24 h. Aliquots of the positive tubes were inoculated in EC broth, in a water bath at 45°C for 24 h. *E. coli* strains were isolated from the EC broth in MacConkey agar medium. *E. coli* colonies were subjected to molecular identification through the PCR technique by amplifying the *MalB* gene. The isolated strains were tested for the susceptibility profile to antimicrobials by the disk diffusion technique. In the present study, of the 32 samples analyzed, 50 strains of *E. coli* were isolated from 21 samples of poultry meat (75%). The strains showed greater resistance to Sulfonamide (72%), Ciprofloxacin (44%) and Tetracycline (42%), with 42% of the strains classified as multidrug-resistant, that is, strains resistant to three classes of antibiotics or more. It is concluded that the existence of *E. coli* strains with antimicrobial resistance in poultry meat represents a risk to consumers, due to the possibility of transmitting this resistance to humans. Better inspection of poultry production and monitoring of the dispersion of antimicrobial resistance is necessary in order to guarantee consumer food security.

Key words: antimicrobial resistance, chicken, *E. coli*, *MalB* gene

Development Agency This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, Brasil (CAPES), Finance Code 001.

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