

TITLE: IN VITRO ANTIMICROBIAL SUSCEPTIBILITY PATTERN OF NON-LACTOSE FERMENTING *ENTEROBACTERIACEAE* ISOLATED FROM POULTRY MEAT COMMERCIALIZED IN BRASÍLIA, DF, BRAZIL

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ABSTRACT:

The high use of antimicrobials in intensive animal production environments, such as in the poultry production chain, contributes to the emergence of bacteria resistant to antimicrobials, directly impacting public health. Thus, this study aimed to evaluate antimicrobial susceptibility of non-lactose fermenting enterobacteria isolated from poultry meat sold in supermarkets in Brasília, Distrito Federal, Brazil. For the analysis of a total of 59 samples of poultry meat, 25 grams of each sample were weighed in 225 mL of 0.1% peptone water (w/v) and after 18 hours of incubation at 37°C, aliquots were transferred to the selenite-cystine broth and incubated at 37°C for 24 hours. After incubation, aliquots were transferred to the SS agar medium. The non-fermenting lactose colonies were transferred from the SS agar to the TSI agar. The TSI agar tubes that presented non-fermenting lactose strains were again passed to the SS agar medium and incubated at 37°C for 24 hours. The 72 pure colonies isolated from SS agar were subjected to antimicrobial susceptibility tests, assessed by the diffusion disc technique. In the present study, strains were more resistant to Amoxicillin with clavulanic acid (75.0%) and Tetracycline (56.9%). Of the 72 strains tested, 40 strains (55.5%) were resistant to one or two types of antimicrobials and 28 strains (38.9%) were classified as multidrug resistant, that is, strains resistant to three classes of antibiotics or more, with 8 strains (11.1%) showing multidrug resistance to 5 or 6 of the 9 tested antimicrobials. The results of this study demonstrated the presence of antibiotic-resistant non-lactose fermenting enterobacteria in chicken samples, which becomes a risk factor for food safety. The need for greater control over the use of antibiotics in poultry production is evident, thus guaranteeing a quality and safe product for the final consumer.

Keywords: antimicrobial resistance, enterobacteria, multidrug resistance, poultry meat

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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