PATTERNS OF ANTIBIOTIC RESISTANCE IN *ESCHERICHIA COLI* ISOLATES FROM CHICKENS IN THE PHILIPPINES

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ABSTRACT

This study investigated the patterns of antimicrobial resistance of commensal Escherichia coli in broiler chickens at slaughter. E. coli isolates were obtained from cecal contents of chickens from 40 farms at slaughter plants in Region 4A. Using the disk diffusion method the researchers determined the antimicrobial susceptibility to seven antimicrobial agents belonging to drug classes used in human therapy. Resistance was observed in 38 (95%) farms. Highest resistance levels found were to three drug classes namely, penicillins (94%), quinolones (89.4%), and tetracyclines (88.7%). Multidrug resistance (MDR) was recorded in 36 (94.7%) farms. Twenty resistance patterns were observed, 18 (90%) of which were to multiple classes involving three to six drug classes. The most common resistance pattern was to three antimicrobial classes, penicillins-quinolones- tetracyclines which was found in 6 (15.8%) of E.coli isolates from 6 farms. The high proportion of MDR to medically important antimicrobials suggests that MDR bacteria can enter the food chain and may result in widespread dissemination and transfer to humans. Hence, the use of antimicrobials in the farms must be reduced, and molecular analysis of the genes encoding for resistance is recommended.

Keywords: *Escherichia coli*; medically important antimicrobials; multidrug resistance; Philippines; poultry

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