

DETERMINATION OF QUINOLONE RESISTANCE IN *Escherichia coli* ISOLATED FROM SELECTED COMMERCIAL BROILERS, SRI LANKA

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Quinolone is one of the most commonly used antimicrobial agents in Sri Lankan poultry sector. Quinolone resistance in Gram-positive and Gram-negative bacteria has become a global issue. This study was conducted to determine the prevalence of quinolone-resistant *Escherichia coli* from selected commercial broilers and to evaluate the presence of plasmid-mediated *qnrA* on quinolone-resistant *E. coli* isolates. The *E. coli* were isolated from the cecum of birds from commercial broiler farms and isolates (n = 238) were confirmed as *E. coli* by morphologically and biochemically. Antimicrobial susceptibility testing was performed by the disk diffusion test using ciprofloxacin disk and results were interpreted according to the criteria given by the European committee on antimicrobial susceptibility testing. The results of the disk diffusion test showed that the zone diameters of the isolates were varied from 0-30 mm. Further, out of all isolates, 206 isolates had a zone diameter of ≤ 22 mm representing 86.6% of prevalence of resistance among the isolates. Out of the resistant isolates (n = 206), 100 isolates were randomly selected and those were screened for *qnrA* gene by conventional PCR test using QnrAm primer. The results revealed that the *qnrA* gene was not present in the selected resistant isolates. Hence, it is possible to conclude that the resistance towards the quinolone is considerable among *E. coli* coexists with broilers. Therefore, the use of quinolone in broilers should be closely monitored. Since the plasmid-mediated *qnrA* gene has no relationship to the resistance, further investigations are required.

Keywords: Antimicrobial susceptibility, Ciprofloxacin, *Escherichia coli*, *qnrA* gene, Quinolone