

Isolation of *Salmonella* spp, *E. coli* and *Proteus* spp from Broiler Chicken Meat and Their Antibiotic Sensitivity to Commonly used Antibiotics

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Development of antimicrobial resistance is a public health concern at the global level, and the spread of antimicrobial resistance are complex problems driven by numerous interconnected factors such as misuse of antimicrobials. Antimicrobial resistance among these foodborne bacteria is common with indiscriminate use of the antimicrobials in food animals. This study was aimed at isolating *Salmonella* spp, *Proteus* spp and *Escherichia coli* from broiler chicken meat and investigating their antibiotic sensitivity to commonly used antibiotics such as trimethoprim (25µg), Ceftriaxone (30µg), gentamycin (10µg), ampicillin (25µg) and ciprofloxacin (30µg) by disk diffusion assay. Meat samples were collected as pooled samples from eight retail shops in the Rathnapura area and 15 organisms were identified by the conventional phenotypic method. Most abundant were *Proteus mirabilis* (6/15), followed by *E.coli* (4/15), *Salmonella* spp (3/15), and *Proteus vulgaris* (2/15). All *Salmonella* isolates showed resistance to ampicillin and intermediate resistance to ciprofloxacin whereas all *Salmonella* isolates were sensitive to ceftriaxone and trimethoprim while 2 of them (*Salmonella* isolate) were resistant to gentamicin and 1 (*Salmonella* isolate) showed intermediate resistant. Although all *E.coli* isolates exhibited resistance to gentamycin and ampicillin some of them were sensitive to ciprofloxacin (3/4), ceftriaxone (2/4) and trimethoprim (1/4). Further, the study indicated that all of *Proteus vulgaris* are resistant to gentamycin and ampicillin whereas they all were sensitivity to ceftriaxone and ciprofloxacin. Out of six isolates of *Proteus mirabilis* five isolates were resistant to both gentamycin and trimethoprim whereas they were resistant ampicillin. But five isolates (6) were sensitivity to ceftriaxone. Moreover, some of the organisms (*E. coli* and *Proteus mirabilis*) showed multidrug resistance. The findings of the study concluded that there is a risk of development of antibiotic-resistant in broiler chicken and this will be an alarming sign to take precautionary actions.

Keywords: Isolation, *Salmonella*, *E. coli*, *Proteus*, Antibiotic sensitivity