

ABSTRACT

ISOLATION AND CHARACTERIZATION OF *CAMPYLOBACTER* SPP. AND OTHER SELECTED PATHOGENS FROM BROILERS IN "PLUCK SHOPS" IN TRINIDAD

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The prevalence of *Campylobacter* spp., antimicrobial sensitivity, biotypes and serotypes of isolates from chickens sold at "pluck shops" were investigated. The occurrence of *Campylobacter* in cloacal samples (80.2%) and carcasses (83.9%) was significantly related to the time live chickens remained in the shops ($p=0.03$) and location of carcasses post slaughter ($p=0.02$). Of a total 1424 isolates, 743 (52.2%) were *Campylobacter jejuni*, 633 (85.2%) of which were biotype I and 110 (14.8%) biotype II. *C. coli* accounted for 681 (47.8%) isolates, 574 (84.3%) were biotype I and 107 (15.7%) biotype II (Lior typing). Of the 52 *C. jejuni* isolates serotyped, 48 were typable (Penner) with 19.2% belonging to HS31 and 5.8% to HS2. Resistance to antimicrobials ranged from 1.6% for gentamicin to 57.6% for sulfamethazole/trimethoprim. The prevalence of *E. coli* and *Campylobacter* spp. varied significantly ($P<0.05$) in liver/heart and gizzard samples and also for *C. jejuni* and *C. coli* in offals and rinse water among the various health divisions. Significant differences across health divisions in the mean counts for aerobic bacteria, *E. coli*, total coliform and staphylococci were

found in carcasses ($p=0.001$), weep ($p=0.04$), liver/heart ($p=0.02$) and rinse water ($p=0.01$). *Salmonella* in carcasses accounted for 7.3%, 3.1% in drip, and 2.1% and 1.0% in gizzard and liver/heart samples respectively. The most common serotypes were *S. Kiambu* (53.8%), *S. Kentucky* (38.5%) and *S. Mbandaka* (7.7%). Ciproflaxacin (57.6%) and erythromycin (15.6%) resistant *Campylobacter* pose the greatest health risk and can potentially contribute to broiler-borne gastroenteritis in humans. The use of running water, frequent changes of rinse water, good sanitation practices at “pluck shops” combined with specific training by the Health Ministry could significantly reduce this risk in Trinidad.

Keywords: *Campylobacter*, poultry, *Salmonella*, biotypes, serotypes