

# Occurrence of *Campylobacter* species from broiler chickens and chicken meat in Malaysia

## ABSTRACT

*Campylobacter* is reported as a major cause of foodborne illness worldwide. Consumption of contaminated chicken meat is considered a significant risk factor of *Campylobacter* infection in humans. This study investigated the occurrence of non-*Campylobacter jejuni*-*Campylobacter coli*, in broiler chickens ( $n = 210$ ) and chicken meat ( $n = 109$ ). The samples were collected from seven broiler chicken farms ( $n = 210$  cloacal swabs), 11 markets ( $n = 84$  chicken meat), and 5 supermarkets ( $n = 25$  chicken meat) located in different districts of Selangor State. *Campylobacter* were isolated from cloacal swabs using the Cape Town Protocol and from meat samples using the method of Duffy et al. (2007) with some modifications for *Campylobacter* isolations which were reported effective in the isolation of non-*C. jejuni*-*C. coli* *Campylobacter* species. The isolates were identified by Gram staining for cellular morphology, wet mount for motility and biochemical tests. Confirmation of presumed *Campylobacter* isolates was carried out using multiplex PCR (mPCR). One hundred seven (107/210) or 50.9% and twenty-nine (29/109) or 26.6% of chickens and chicken meat samples respectively were positive for *Campylobacter* species. Among the *Campylobacter* isolates from chickens, *C. jejuni* was the most predominantly isolated species (69.5%), followed by *C. coli* (16.2%). *Campylobacter fetus* and *C. upsaliensis* were the non-*C. jejuni*-*C. coli* *Campylobacter* species isolated in this study, at 9.3% and 2.5% respectively. Overall, the findings indicated broiler chickens were colonized not only by the common *Campylobacter* species but also by other *Campylobacter* species. We found the Cape Town Protocol useful to detect the occurrence of non-*C. jejuni*-*C. coli* isolates in chickens.

- **Keyword:** *Campylobacter*; Cape Town protocol; Non-*C. jejuni*-*C. coli*; Malaysia