

## Characterization of multiple-antimicrobial-resistant *Salmonella enterica* Subsp. *enterica* isolated from indigenous vegetables and poultry in Malaysia.

### ABSTRACT

**Aims:** The aims of this communication were to study characterization of serogroups among *Salmonella* isolates and the relationship of antimicrobial resistance to serogroups. Multiple antimicrobial resistance (MAR) was performed on 189 *Salmonella enterica* isolates associated with 38 different serovars that were recovered from poultry and four types of indigenous vegetables. **Methods and Results:** Disc diffusion analysis was performed with a selection of 10 different antimicrobial agents. Isolates recovered from indigenous vegetables showed 100% (134/134) resistant to erythromycin and followed by 42%, 34%, 19% for tetracycline, streptomycin and trimethoprim-sulfamethoxazole respectively. In general, 90.1% (50/55) and 56.7% (76/134) of *Salmonella* isolated from poultry and indigenous vegetables, respectively, exhibited MAR index more than 0.2. **Conclusions:** Characterization of *Salmonella* isolates based on the MAR results indicated that poultry still remains as the main reservoir for multi-drug-resistant *Salmonella*. Four isolates from the indigenous vegetables showed the highest MAR index in this study. Further investigations need to be conducted to determine if *Salmonella* isolates recovered from indigenous vegetables were gaining more antimicrobial resistance. **Significance and Impact of the Study:** The study enabled us to determine antimicrobial patterns and trends in *Salmonella* from poultry and indigenous vegetables in Malaysia.

**Keyword:** Characterization; Indigenous vegetables; Multiple-antimicrobial-resistant-*Salmonella*.