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 trimethroprim-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.