

## **Prevalence and Evaluation of Antimicrobial Activity of Dodonaea viscosa Extract and Antibacterial Agents against Salmonella spp. Isolated from Poultry**

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**Abstract :** A total of 200 samples (180 fecal materials and 20 organ samples) were collected from (5 different poultry farms, 10 local poultry shops, 5 houses poultry, 5 Eggs stores shops and 5 hand slaughters centers) in Ibb city, Yemen, 2014. According to morphological, cultural, as well as biochemical characterization and serological tests, 59 29.5% isolates were identified as Salmonella spp. and all Salmonella isolates were categorized by serotype, which comprised of, 37 62.71% Salmonella Typhimurium serovar, 21 35.59% Salmonella Enteritidis serovar and 11.69% Salmonella Heidelberg serovar. Antibiotic sensitivity test was done for bacterial isolates and the results showed there were clear differences in antibiotic resistant. Antimicrobial susceptibility of the isolates varies as follows: Ofloxacin 79.66%, Ciprofloxacin 67.80%, Colistin 59.32% and Gentamycin 52.54%. All of isolates were resistant to Erythromycin, Penicillin and Lincomycin. Antibacterial activity was done for both aqueous and ethanol extracts of Dodonaea viscosa plant by using well and disc diffusion assay. The results indicated that well diffusion assay had best results than disc diffusion assay, the highest inhibition zone was 22 mm for well diffusion and 15 mm for disc diffusion assay, the results observed that ethanol extract had best antibacterial effect than aqueous extract which the percentage of bacterial isolates affected with ethanol extract was 71.19% comparing with aqueous extract 28.81% by using disc diffusion assay, while the percentage of bacterial isolates affected with ethanol extract was 88.13% comparing with aqueous extract 52.54% by using will diffusion assay.

**Keywords :** Salmonella spp, Dodonaea viscosa, antimicrobial and salmonellosis

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