# **Titre d’article**: Characterization of quinolone-resistant Enterobacteriaceae strains isolated from poultry in Western Algeria: First report of qnrS in an Enterobacter cloacae

**Abstract :**

Aim: Multidrug-resistant (MDR) Enterobacteriaceae have frequently been reported, in both human and veterinary medicine, from different parts of the world as a consequence of antibiotic usage. However, there is a lack of published data regarding antimicrobial resistance in non-Escherichia coli (E. coli) Enterobacteriaceae from animals in Algeria. This study aimed to evaluate the frequency of resistance to antibiotics with a focus on quinolones and to investigate the presence of qnr genes in Enterobacteriaceae of poultry origin. Materials and Methods: A total of 310 samples of poultry origin were collected from 2010 to 2014 from broiler and layer farms and hatcheries located in different geographic areas of Western Algeria (including Mostaganem, Oran, Mascara, Relizane, Chlef, Tiaret, and Tissemsilt). Antimicrobial susceptibility testing was performed using disc diffusion assay. Polymerase chain reaction and sequencing accomplished the characterization of qnr genes (qnrA, qnrB, and qnrS). Results: A total of 253 Enterobacteriaceae strains were isolated in this study. These isolates exhibited high levels of resistance to quinolones and other families of antibiotics. All the strains isolated in this study were resistant to at least one antibiotic. Among them, 233 (92.09%) were considered MDR. Among the 18 randomly selected nalidixic acid (NA)- resistant Enterobacteriaceae isolates, one E. coli and one Enterobacter cloacae were carrying qnrS1. By contrast, qnrA and qnrB were not detected in this study. Conclusion: This is the first report on the identification of the qnrS gene in E. cloacae isolated from animal source in Algeria. Further studies have to be conducted to determine the real prevalence of qnr genes.