

## Prevalence and Risk Factors of Faecal Carriage Fluoroquinolone-Resistant *Escherichia coli* among Hospitalized Patients in Ado-Ekiti, Nigeria

**Authors :** C. A. Ologunde

**Abstract :** *Escherichia coli* have been a major microorganisms associated with, and isolated from fecal samples either in adult or children all over the world. Strains of these organisms are resistant to cephalosporins and fluoroquinolone (FQ) antimicrobial agents among hospitalized patients and FQs are the most frequently prescribed antimicrobial class in hospitals, and the level of resistant of *E. coli* to these antimicrobial agents is a risk factor that should be assessed. Hence, this study was conducted to determine the prevalence and risk factors for colonization with fluoroquinolone (FQ)-resistant *E. coli* in hospitalized patients in Ado-Ekiti. Rectal swabs were obtained from patients in hospitals in the study area and FQ-resistant *E. coli* were isolated and identified by means of Nalidixic acid multi-disk and a 1-step screening procedure. Species identification and FQ resistance were confirmed by automated testing (Vitek, bioMerieux, USA). Individual colonies were subjected to pulsed-field gel electrophoresis (PAGE) to determine macro-restriction polymorphism after digestion of chromosomal DNA. FQ-resistant *E. coli* was detected in the stool sample of 37(62%) hospitalized patient. With multivariable analyses, the use of FQ before hospitalization was the only independent risk factor for FQ-resistant *E. coli* carriage and was consistent for FQ exposures for the 3-12 months of study. Pulsed-field gel electrophoresis of FQ-resistant *E. coli* identified clonal spread of 1(one) strain among 18 patients. Loss (9 patients) or acquisition (10 residents) of FQ-resistant *E. coli* was documented and was associated with de novo colonization with genetically distinct strains. It was concluded that FQ-resistant *E. coli* carriage was associated with clonal spread. The differential effects of individual fluoroquinolone on antimicrobial drug resistance are an important area for future study, as hospitals manipulate their formularies with regard to use of individual fluoroquinolone, often for economic reasons.

**Keywords :** *E. coli*, fluoroquinolone, risk factors, faecal carriage, hospitalized patients, Ado-Ekiti

**Conference Title :** ICCMID 2018 : International Conference on Clinical Microbiology and Infectious Diseases

**Conference Location :** London, United Kingdom

**Conference Dates :** May 14-15, 2018