

47th World Congress on Microbiology

September 10-11, 2018 | London, UK

Phenotypic detection of extended spectrum beta lactamases (ESBL) produced by *Escherichia coli* found on automated teller machines (ATMs) within Sokoto metropolis

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It is no longer a fallacy that environmental objects are grossly contaminated by pathogenic microbes. ATMs especially which are used on daily basis by thousands of people have been reported to be potential habitat for these microbes. The worst case scenario is the presence and ease of spread of multi-drug resistant (MDR) and extended spectrum beta lactamase (ESBL) producing pathogens via these machines as a result of their huge patronage. The prevalence and fast spread of these MDR and ESBL producing strains constitute an emerging public health concern. This study was conducted to determine the prevalence of MDR and ESBL producing *E.coli* on ATMs within Sokoto metropolis. For this purpose, a total of 194 samples were obtained from 100 ATM swabs, of which 31 isolates were confirmed to be *E.coli*. The isolated *E.coli* species were subjected to antimicrobial susceptibility tests using the modified Kirby-Bauer disc diffusion method. Commercial antimicrobial discs (Oxoid, UK) used include: ceftazidime (CTZ, 30 µg), cefotaxime (CTX, 30 µg), gentamycin (CN, 10 µg), augmentin (AMC, 30 µg), ciprofloxacin (CIP, 5 µg) and imipenem (IPM, 10 µg). The isolates were further screened for ESBL production and phenotypic confirmatory test was done using CLSI guideline 2015. Confirmation of MBL production was also performed using antibiotic discs containing two carbapenems (imipenem IPM, 10 µg and meropenem MEM, 10 µg). ESBLs producers were found to be 93.3% while the MBLs producers were found to be 13.3%. It can be concluded that MDR and ESBL producing *Escherichia coli* (*E. coli*) are the most prevalent species isolated and that the species isolated are more sensitive to gentamycin, ciprofloxacin and imipenem.

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