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Virulent characteristics of multidrug resistant *E. coli* from Zaria, Nigeria

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Most Multi Drug Resistant (MDR) *Escherichia coli* isolates (resistant to more than 3 classes of antibiotics) exhibit co-virulent characteristics that contribute to mortality and morbidity as a result of resistance to commonly prescribed antibiotics in the clinics. This study evaluated phenotypically some virulent characteristics in *E. coli* that contribute to the expressed MDR properties of *E. coli* using standard microbiological methods. 87 *E. coli* isolates were confirmed as *E. coli* from urinary tract infection and diarrhea patients in selected hospitals in Zaria, Nigeria using Microgene identification kit, out of which 58.6% (51) were observed to be MDR. Significant number of the MDR isolates (70.6% (36)) were extended spectrum beta-lactamase producers, 45.1% (23) were resistant to Cefoxitin and produce ampC. While further analysis on the isolates showed that 23.5% (12) were biofilm producers, 47.1% (24) were hetero resistant to Cefoxitin while 5.9% (3) produced carbapenemase. This study showed that most MDR *E. coli* from UTI and diarrhea could exhibit more than one virulent characteristic. Hence, isolates with MDR should be subjected to various tests in other to validate the mechanisms of resistance. This will encourage better treatment options and good periodic surveillance in prescription and dispensing of antibiotics in clinical settings.

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