Incidence of community-acquired urinary tract infections due to extended-spectrum β-lactamase producing organisms in United Arab Emirates

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The epidemiology of extended-spectrum β-lactamase (ESBL) producing bacteria is fast evolving with increasing global trend toward community-acquired infections. However, considerably little is known about the epidemiology of ESBL-producing bacteria in the Middle East. We examined ESBL producing *Escherichia coli* and *Klebsiella pneumoniae* isolates from urinary tract infections (UTIs) occurred between 2014 and 2016 at the University Hospital Sharjah (UHS). From the 1792 examined urinary isolates, we included 399 cases and 124 controls. Pearson’s χ²-test was used to describe the characteristics of ESBL positive compared to ESBL negative infections. To examine the potential confounding factors, multivariate logistic regression analysis was performed. A total of 399 ESBL producing *E. coli* (79%) and *K. pneumoniae* (21%) isolates were obtained from UTIs. 75% of ESBL positive UTIs were community-acquired. Majority of the isolates were resistant to several antibiotics such as augmentin (51%), ciprofloxacin (74%), and trimethoprim-sulphamethoxazole (73%), but remain sensitive to meropenam (99.5%) and amikacin (73%). Here, we report that 75% of ESBL-producing *E. coli* and *K. pneumoniae* UTIs seen at UHS and its affiliated clinics are remarkably, community-acquired. This epidemiological shift is alarming and supports the need to improve methods for early identification and development of more effective therapeutic strategies against ESBL-producing bacteria.

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