

## Risk Factors Associated with Resistance in CTX-M Producing *E. coli* Isolates

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**Background & Objectives:** CTX-M is a type of extended spectrum beta-lactamases and is the most frequent. It is an important cause of antimicrobial resistance against cephalosporin's and a recent concern in treating infections caused by gram negatives. *E. coli* have become the major carrier of the genes but these enzymes have reported in many other species. The aim of this study was to determine risk factors associated with resistance in CTX-M producing *E. coli* isolated from admitted patients Sanandaj hospitals, Iran.

**Methods:** The study was a case control investigation. A case patient was defined as a patient who had an isolated of resistance *E. coli* producing CTX-M and the control patient was who carried sensitive *E. coli* strains against cephalosporin's. The presence of CTX-M was investigate by phenotype Methods (double disk diffusion ) and genotype Methods(PCR).The potential risk factors of resistance checked with patients history and current situations and two group analyzed.

**Results:** We found out the main risk factors for CTX-M infection were ICU hospitalization[OR 5.702CI95%2.286-14.223] , mechanical ventilation[OR 5.043 CI 95%2.082-12.213] and urinary catheter , [OR 11.629CI95%3.694-36.613].

**Conclusion:** In conclusion ICU hospitalization, mechanical ventilation and urinary tract catheter are the most predisposing factors in spreading of CTX-M family in hospital environments and more sophisticated programs are needed to control of this conditions.

**Keywords:** *E. coli*; Hospital; Cefepime; Risk Factor; Resistance