

JOINT EVENT

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&amp;

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**Detection of extended spectrum beta-lactamase producing *E. coli* isolated from different clinical specimens, Zahedan, Iran**Shahnaz Armin<sup>1</sup>, Fatemeh Fallah<sup>1</sup>, Leila Azimi<sup>1</sup>, Abdollah Karimi<sup>1</sup>, Saeid Maham<sup>1</sup> and Shahram Shahraki Zahedani<sup>2</sup><sup>1</sup>Shahid Beheshti University of Medical Sciences, Iran<sup>2</sup>Zahedan University of Medical Sciences, Iran

**Introduction & Aim:** *Enterobacteriaceae* family contains important bacteria that involve in nosocomial infections like, *E. coli* and *Klebsiella* spp. *E. coli* can cause of variety types of infections such as, urinary tract infection, blood infection and etc. antibiotic resistant in *E. coli* can lead to prolongation of hospitalization and also, increasing more morbidity and mortality. ESBL producing *E. coli* can become resistant to all beta- lactam antibiotics except carbapenem. The aim of this study was, detection of ESBL producing *E. coli* in clinical specimens by phenotypic and molecular methods in Zahedan as a border city of Iran. ESBL producing *E. coli* can transfer from Afghanistan and Pakistan to Iran.

**Materials & Methods:** In this cross sectional study, 100 *E. coli* was collected from different clinical specimens in Zahedan. Resistance to cefotaxime and ceftazidime were examined by disc diffusion method according to CLSI guide line. Combination disc by cefotaxime and cefotaxime- clavulanic acid and also ceftazidime and ceftazidime- clavulanic acid was used for phenotypic identification of ESBL producing strains. DNA extractions of isolates were prepared by DNA extraction kit (Thermo). Detection of *TEM*, *CTX-M* and *SHV* were done by PCR as most common ESBL producer genes.

**Results:** According to antibiotic susceptibility testing 73 of 100 collected *E. coli* were resistant to cefotaxime and/or ceftazidime. The results of combination disc method showed 55 (75%) ESBL positive strains. *TEM* is the most detected ESBL producer genes and was identified in 42 (76%) of *E. coli* with positive phenotypic ESBL detection test. 9 (15%) had *SHV* and none of them carried *CTX-M* gene.

**Discussion:** The results of study showed the high rate of ESBL producing *E. coli* in Zahedan and it can be considerable because *E. coli* is one of the important causes of nosocomial infection. ESBL producing can make more antibiotic resistant in *E. coli* and consequently increase more morbidity and mortality. On the other hand, this high rate of presence of ESBL producing *E. coli* in border city can be important issue because it becomes to Iran from other countries. So, care of traffic at the borders of the country may be helpful for control of spread of these antibiotic resistant bacteria in Iran.

**Biography**

Shahnaz Armin is a Sub-specialist of Pediatric Infectious Diseases from Tehran University of Medical Sciences, Tehran, Iran. She is the Faculty member of Mofid Hospital, Shahid Beheshti University of Medical Sciences, Iran. She has published more than 20 papers in reputed journals and; is an Associate Editor of the journal *Archives of Pediatric Infectious Disease*.

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