

Short Communication

## Prevalence of Extended-Spectrum Beta Lactamase enzymes in clinical isolates of Enterobacteriaceae family

Moosavian SM (Ph.D)<sup>1</sup>, Rezvanirad A (B.Sc)\*<sup>2</sup>

<sup>1</sup>Associate Professor, Department of Microbiology, Faculty of Medicine, Ahwaz Jondishapur University of Medical Sciences, Ahwaz, Iran. <sup>2</sup>M.Sc Student of Microbiology, Department of Microbiology, Ahwaz Jondishapur University of Medical Sciences, Ahwaz, Iran.

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### Abstract

**Background and Objective:** Extended-Spectrum Beta Lactamase enzymes (ESBLs) are the most important factor for antimicrobial resistance in Enterobacteriaceae. The resistance to beta-lactam antibiotics is the main problem in the bacterial infections therapy. This study was done to determine the prevalence of Extended-Spectrum Beta Lactamase enzymes in clinical isolates of Enterobacteriaceae family.

**Methods:** In this descriptive study, 240 isolates of Enterobacteriaceae family were collected from clinical specimens obtained in Shohada, Rahimi and Madani hospitals in Khorramabad city, Iran. Antibiotic susceptibility of isolates was performed by disk diffusion method. ESBLs production in all isolates was determined using the combination disk method.

**Results:** Bacteria strains isolated in this study were *Escherichia coli* (76%), *Klebsiella pneumonia* (16.2%), *Citrobacter* (5.4%), *Enterobacter spp.* (0.83%) and *Proteus* (1.6%). The results of antimicrobial susceptibility of isolates showed that the highest rate of antibiotic resistance was toward Ampicillin (88%) and Cefotaxime (43%) and the lowest rate was observed to Amikacin (2.5%). According to the results of the phenotypic tests, 141(59%) isolates out of 240 Enterobacteriaceae were beta-lactamase producers.

**Conclusion:** ESBL *producer* isolates and antibiotic resistant due to of *Enterobacteriaceae* isolated from clinical samples from hospitals are high prevalence in Khorramabad city, Iran.

**Keywords:** Enterobacteriaceae, Extended-Spectrum Beta Lactamase, *Escherichia coli*, *Klebsiella pneumonia*

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\* **Corresponding Author:** Rezvanirad A (B.Sc), E-mail: a1027rezvani@yahoo.com

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