

## **The rationale behind antibiotic resistance pattern in *Klebsiella pneumoniae***

### **ABSTRACT**

Presently, there is an increase in antibiotic resistance in bacteria, due to relax prescription of antibiotics, especially in Iran. Undoubtedly, in toxin antitoxin (TA) system, a toxin neutralized by antitoxin, which known as a potent antimicrobial target; but there is no extensive survey on the prevalence of TA loci in large scale of *Klebsiella pneumoniae*. Therefore, this study aims to determine the prevalence of different TA loci in clinical and environmental *K. pneumoniae* isolates. For this reason, 48 *K. pneumoniae* clinical isolates and 49 *K. pneumoniae* environmental isolates were subjected for evaluation of different TA loci. The results of current study indicated that there is no association between antibiotic resistances and presence of TA loci in clinical and environmental *K. pneumoniae*. The role of TA loci as a potent target in antibiotic resistant *K. pneumoniae* has been complicated. Therefore, more studies should be performed to explain why TA loci are presented in *K. pneumoniae* and what is the rationale behind antibiotic resistant *K. pneumoniae*?