

## **Incidence and characterization of multi-drug resistance *Acinetobacter baumannii***

**Authors:** Mohammad Al-Tamimi<sup>1</sup>, Kamal Hijamwi<sup>2</sup>, Heather Lee Harvey<sup>1</sup>

<sup>1</sup> Department of Basic Medical Sciences, Faculty of Medicine, Hashemite University, Zarqa, Jordan <sup>2</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, Hashemite University, Zarqa, Jordan

**Corresponding Author:** Mohammed Al-Tamimi, MD, PhD  
Department of Basic Medical Sciences, Faculty of Medicine,  
Hashemite University, Zarqa, Jordan  
Telephone: +962 (5) 3903333  
Fax: +962 (5) 3826613  
E-mail: mohammad.altamimi@hu.edu.jo

### **Abstract**

**Objectives:** *A. baumannii* is a common cause of infections associated with high mortality and morbidity. It is an important multi-drug resistant microorganism worldwide. The aim of this study is to investigate the incidence and characterization of *A. baumannii* in tertiary Hospital in Jordan.

**Methods:** Retrospective study using data available on Vitek 2 Compact system and patients files from 2010 to 2016 in Specialty Hospital, Amman. Demographic, clinical, isolates information and antibiotics sensitivity patterns were collected and analyzed using appropriate statistical tests.

**Results:** 622 *A. baumannii* isolates were reported during the study period with about 99% having high confidence rate. Most isolates were from male, aged 18-60 years, Jordanian, and from infected wounds in surgery and critical care departments. 76.8% of *A. baumannii* isolates were MDR. Adults over 60, male, non Jordanians, critical ill patients and infected wounds represented significant risk factors for MDR incidence ( $P < 0.0001$ ), while no statistical significant risk associate with years ( $P > 0.0$ ). Resistance pattern indicated high resistance for most Cephalosporins, Carbapenems Fluoroquinolones, and Ampicillin, moderate resistance for Trimethoprim/Sulfamethoxazole and Ampicillin/Sulbactam low resistance for Aminoglycosides and Tetracyclines, and the lowest resistance rates were for Colistin and Tigecycline. Most strains had Aminoglycosides resistant phenotype GEN NET AMI TOB, GEN TOB AMI and TOB GEN NET.

**Conclusion:** Jordan has high rate *A. baumannii* MDR, adults, critically ill males with infected wounds have significant high rate of *A. baumannii* MDR. Continues surveillance and monitoring of this critical microorganism is required.