

Acinetobacter Baumannii pneumonia epidemiology and resistance patterns amongst critically ill adult population at Bokamoso Private Hospital in Botswana, 2011-2016

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Background: Nosocomial infections and antimicrobial resistance are an increasing global public health problem responsible for substantial morbidity, mortality and escalating costs of hospitalisation; particularly amongst ventilated ICU populations. *Acinetobacter Baumannii* is a leading cause of VAP; over the years the pathogen has presented as a multi-drug resistant organism progressively advancing toward extensive drug resistance.

Objectives: To describe the epidemiology and antimicrobial susceptibility patterns for *Acinetobacter Baumannii* pneumonia in a critically ill adult population.

Method: Retrospective cross-sectional study conducted at Bokamoso Private Hospital, Gaborone, Botswana. 77 adult patients who developed *Acinetobacter Baumannii* associated pneumonia during their stay in ICU between 2011 and 2016 were included in the study. We

assessed the risk factors for mortality using logistic regression.

Results: Out of the 77 *Acinetobacter Baumannii* pneumonia cases, 92% (n=71) were ventilator associated. The mortality rate was 26.0% (n=20). After adjusting for potential confounders in multivariate analysis, HIV infection (adjusted odds ratio (aOR) 5.77, 95% CI: 1.39 to 23.88; p-value = 0.02) and re-intubation (aOR 11.82, 95% CI: 2.11 to 66.38; p-value = <0.01) were significant risk factors for mortality.

Conclusion: *Acinetobacter Baumannii* remains a challenge amongst critically ill ICU patients characterised by high mortality and prolonged hospitalisation. HIV and reintubation are strong predictors of mortality. The prevalence of multi-drug resistant *Acinetobacter Baumannii* is high and Colistin has the best in vitro activity. Promotion of infection control and antimicrobial stewardship programs in the region remains pivotal in the fight against MDR nosocomial infections.