



MAKERERE

UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICINE

**DESCRIPTIVE STUDY ON PREVALENCE OF BACTEREMIA AND THE PROFILES
OF ANTIMICROBIAL RESISTANCE AMONG FEBRILE PATIENTS ADMITTED TO
THE MEDICAL EMERGENCY WARD OF MULAGO HOSPITAL, UGANDA**

BY

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ABSTRACT

Introduction: Bacteremia is associated with significant morbidity and mortality in the developing world. In Uganda, antibiotic susceptibility testing is not routinely done among patients suspected to have sepsis. This compromises care and leads to inappropriate antibiotic utilization. Knowledge of local susceptibility patterns can orient clinicians on choice of antibiotics and lead to improvements in sepsis care.

Objectives: 1. To determine the prevalence of bacteremia among patients admitted with sepsis to the medical emergency ward at Mulago hospital. 2. To determine the causative microorganisms of bacteremia and antibiotic susceptibility patterns among patients admitted with sepsis to the medical emergency ward at Mulago hospital.

Methods: We conducted a descriptive; cross sectional study on 263 newly admitted adults presenting with clinical symptoms of bacteremia on the medical emergency ward at Mulago hospital. A questionnaire was administered and a physical examination done. Blood samples were aseptically collected and cultured aerobically in BACTEC blood culture broth on the BACTEC automated blood culture instrument. Antimicrobial susceptibility testing was performed using the Kirby-Bauer disc diffusion technique. Data were entered in Epi Info 7 and exported to STATA 12.0 for analysis.

Results: A total of 245 patients were included for analysis, 32% of whom were HIV infected. A positive blood culture (confirmed bacteremia) occurred in 48/245 patients (19%). Out of 48 isolates, 40 (83%) were *Enterobacteriaceae*. *Salmonella species* was the commonest isolate (28/48 isolates = 58%). Out of 48 isolates, 14 (29%) were deemed multidrug resistant (MDR). Among the 40 *Enterobacteriaceae* isolates, 4 (10%) were harboring ESBL, and 2 (5%) Amp C beta-lactamase. Out of the three *Staphylococcus aureus* isolates, one was methicillin resistant (MRSA).

Conclusion: Among the patients admitted with fever to the medical emergency ward of Mulago hospital, the prevalence of bacteremia was 19%. One out of three isolates was MDR. The presence of MDR implies worse treatment outcomes or use of expensive antibiotics.

Recommendations: Containment of MDR bacteria calls for reinforcement of infection control measures, and implementation of an antibiotic stewardship program.