

Prevalence of multidrug-resistant bacteria in clinical samples from a secondary hospital in Lambaréné, Gabon, and Implications for antimicrobial stewardship: a retrospective study

Bayode Romeo Adegbite^{#1,2,3}, Maradona Daouda Agbanrin^{1,2}, Matthew Benjamin Bransby McCall¹,

¹Centre de Recherches Médicales de Lambaréné (CERMEL), BP 242 Lambaréné, Gabon, ²Institut für Tropenmedizin, Universität Tübingen, Wilhelmstr. 27, 72074 Tübingen, Germany, ³Center of Tropical Medicine and Travel Medicine, Department of Infectious Diseases, Division of Internal Medicine, Amsterdam University Medical Centers, location AMC, University of Amsterdam, Amsterdam, the Netherlands

#Emails: romeo.bayode@cermel.org /

aromakobs@gmail.com

INTRODUCTION & AIM

Antimicrobial resistance (AMR) is a global health challenge, with Africa expected to bear the highest burden by 2050. This study investigates the spectrum and proportion of **multidrug-resistant (MDR)** bacteria at a major secondary hospital

DIAGRAM OF THE RETROSPECTIVE CROSS-SECTIONAL STUDY (2017–2023)

2017 → 2023



DESIGN :
RETROSPECTIVE
CROSS-SECTIONNELLE STUDY
(2017–2023)

► **SAMPLES : 5,401 Clinical Records**
(Urine, Blood, Stool, Wounds, etc.)



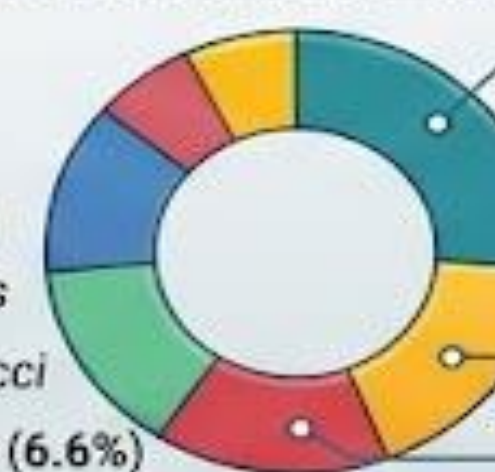
3 - RESULT

A. BACTERIAL ISOLATES

Key Isolates

(Out of 1,050 clinically relevant isolates)

- Escherichia coli (26%)
- Staphylococcus aureus
- β-hemolytic Streptococci
- Klebsiella pneumoniae (6.6%)



Escherichia coli: predominant in urine (58%)

Staphylococcus aureus: predominant in wounds (50%) and blood (18%)

K. pneumoniae

B. RESISTANCE PROFILES

Overall MDR Prevalence: **23%** (242/1,050)

ESBL Production: **10.5%** among Enterobacterales (notably high in *K. pneumoniae* at 27.5%)

MRSA: **11.45%** of *S. aureus* isolates (up from 5% reported five years ago)

WHO 2024 Priority List: **5.5%** of isolates are "Critical" (Carbapenem-resistant and ESBL-producing Enterobacterales)

[MDR distribution by species]
E. coli 35% MDR
K. pneumoniae 42% MDR
Shigella spp. 46% MDR

Conclusion :

The high prevalence of MRSA, ESBL-producing Enterobacterales, and MDR isolates is alarming. In settings with limited infrastructure, these data are vital for:

- Guiding empiric therapy where culture is not systematic.
- Informing National Action Plans for AMR.
- Strengthening Stewardship: Promoting rational antibiotic use and active surveillance.