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CARBAPENEM RESISTANCE PATTERNS AT H.MOH.RUSLAN REGIONAL PUBLIC HOSPITAL MATARAM CITY, 2023-2024

OVERALL RESISTANCE TREND

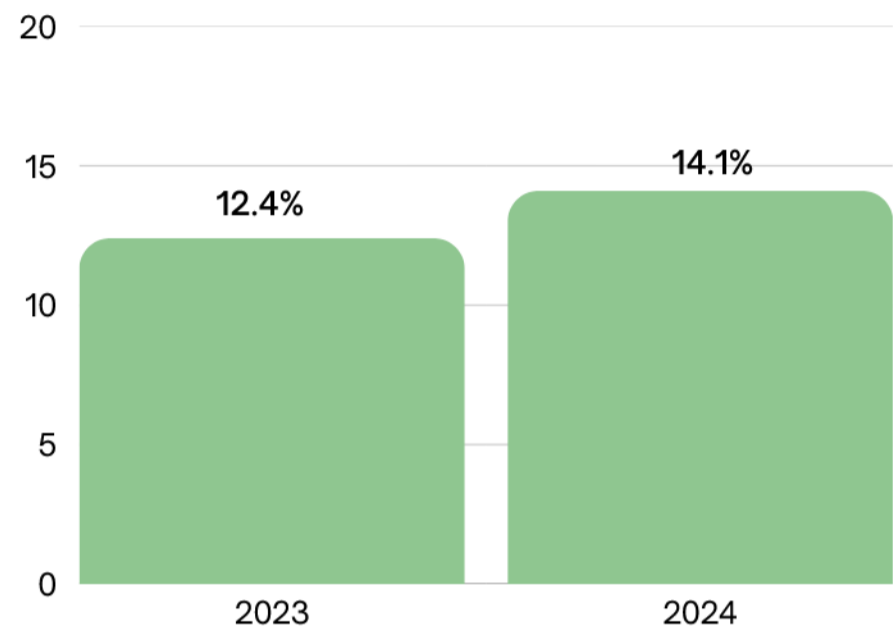


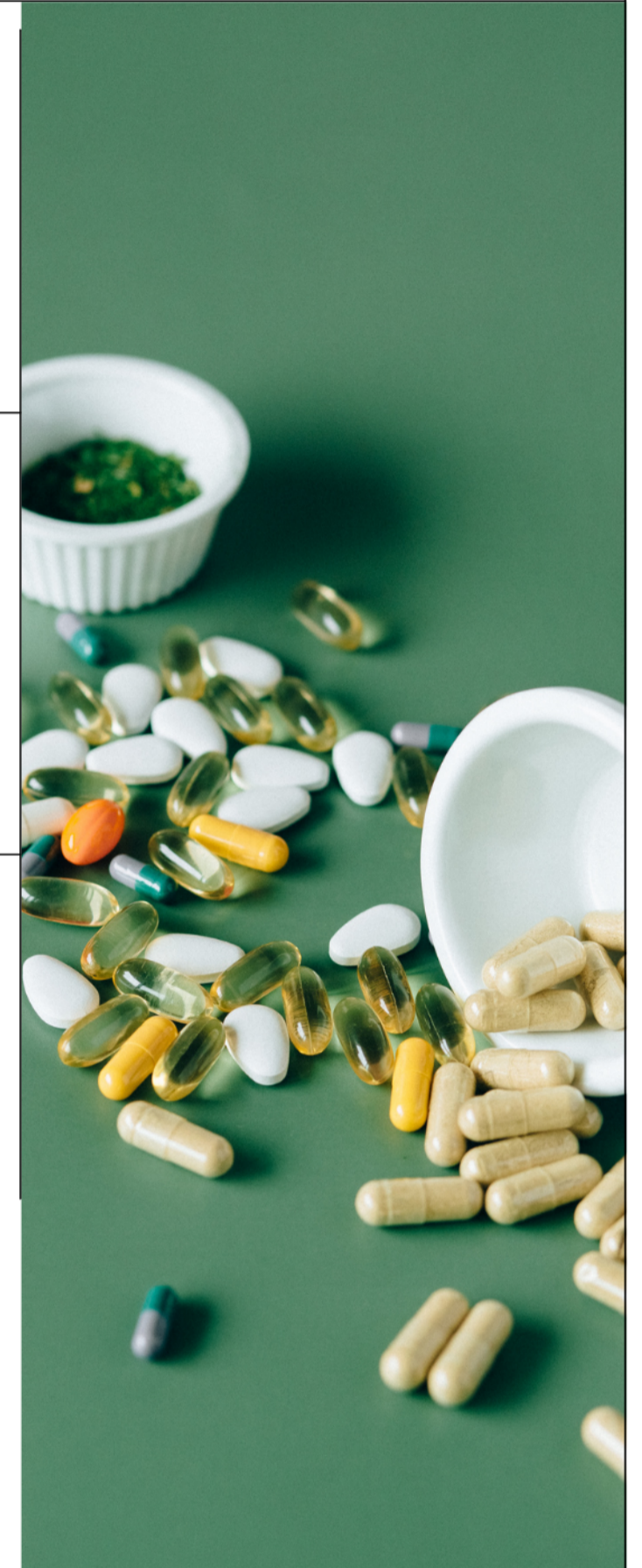
Figure 1. Antimicrobial Resistance Trends, 2024–2025

BACKGROUND

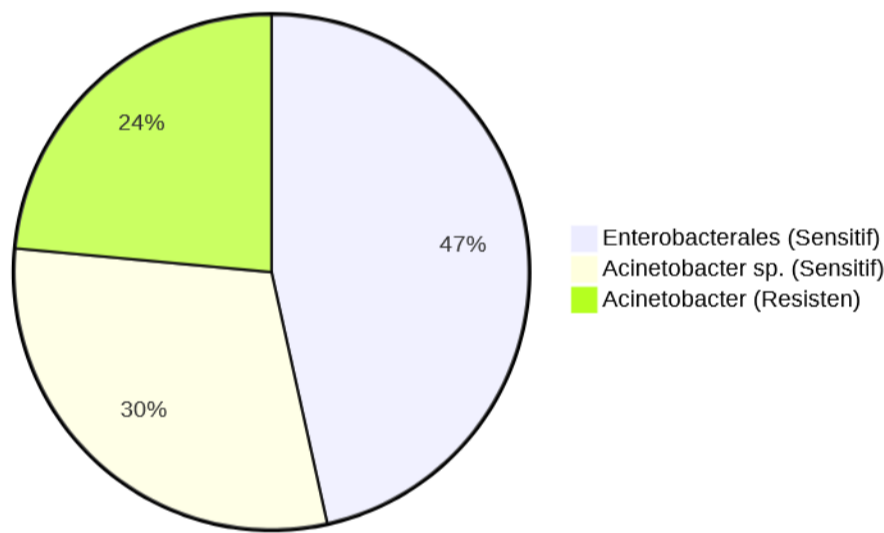
- **Carbapenems:** Last-resort antibiotics for severe infections.
- **Resistance** threatens both **patient safety** and the **healthcare system**.
- **Local data** are essential for effective **AMR (Antimicrobial Resistance) control**.

RESEARCH METHODOLOGY

- **Design:** Retrospective cross-sectional study.
- **Data Source:** Microbiology laboratory medical records (January 2023 – December 2024).
- **Method:** Antibiotic susceptibility testing using the disk diffusion method.
- **Analysis:** Comparison of resistance rates between the two years.



RESISTANCE/SENSITIVITY TO CARBAPENEM BY PATHOGEN



MAIN RESULTS & DISCUSSION

- Resistance to carbapenems increased from **12.4% (2023)** to **14.1% (2024)**.
- Acinetobacter sp. showed the most significant rise in resistance (**25.7% → 34.3%**), representing a serious warning sign.
- Sputum and pus specimens exhibited the highest resistance rates, reflecting ongoing challenges in managing **respiratory** and **soft tissue infections**.
- Despite the concerning trend, **Meropenem** remains highly effective (**>85% sensitivity**) against **Enterobacterales** (such as E. coli and Klebsiella).

CONCLUSION & RECOMMENDATIONS

The rise in carbapenem resistance demands immediate action

- Strengthening targeted Antimicrobial Stewardship (AMS) programs is essential, particularly for Acinetobacter infections.
- These findings can guide more rational empirical therapy decisions.
- Infection Prevention and Control (IPC) measures must be reinforced to limit further spread.

Ongoing local surveillance is crucial to preserve carbapenems as a vital last-line defense against resistant pathogens.

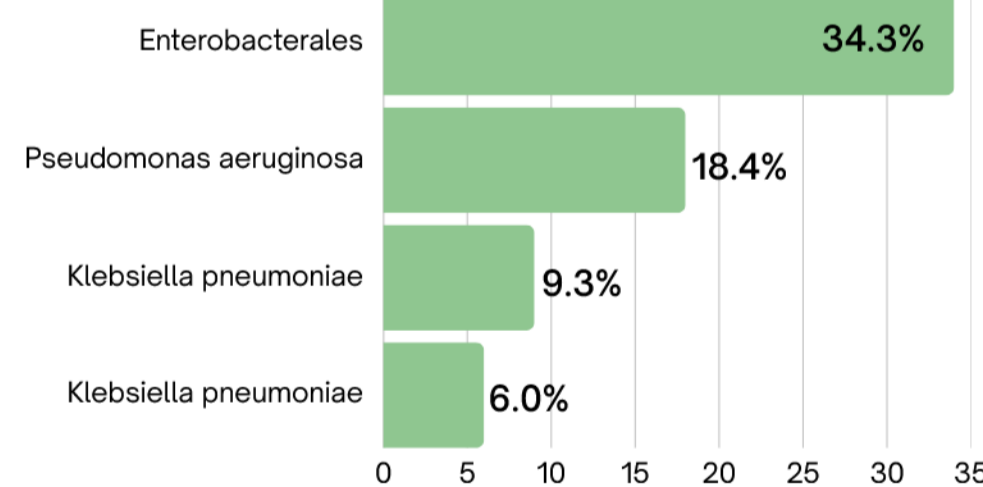


Figure 2. Effectiveness of Meropenem by Pathogen, 2024

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