DS Nelson Trainee Prize Presentation

UTILISATION OF A CLINICAL MICROBIOLOGY SERVICE AT A CAMBODIAN PAEDIATRIC HOSPITAL AND ITS IMPACT ON APPROPRIATE ANTIMICROBIAL PRESCRIBING

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Background: Antimicrobial stewardship and effective clinical microbiology services (CMS) are essential for combating antimicrobial resistance.

Objectives and methods: This mixed-methods study assessed the appropriateness of antimicrobial prescriptions (quantitative) and factors affecting utilisation of the CMS (qualitative). The CMS comprises the microbiology laboratory, clinical microbiologists and antimicrobial guidelines.

This study was conducted at Angkor Hospital for Children, Siem Reap, Cambodia. Empirical prescriptions were assessed for outpatients (10 per week of 2016, retrospective) and inpatients (75 per week over 4 weeks, prospective). Post-culture prescriptions were assessed for patients with positive blood and CSF cultures (2014 to 2016). Prescriptions were appropriate if they matched treatment guidelines, microbiologists' advice or antimicrobial susceptibilities. Physicians' perspectives of utilising the CMS were explored via focus group discussions and semi-structured interviews.

Results: Post-culture prescriptions were more likely to be appropriate than empirical prescriptions (394/443, 89%, versus 447/535, 84%, $p=0.015$). Being accessible and trusted enabled CMS utilisation. Obstructive clinical hierarchies and communication challenges hindered CMS utilisation. Clinical microbiologists provided a crucial human interface between the CMS and physicians.

Conclusion: Most antimicrobial prescriptions were appropriate. Microbiology services must feature a human interface to support physicians to appropriately prescribe antimicrobials.

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MICROBIOLOGY INVESTIGATION CRITERIA FOR REPORTING OBJECTIVELY (MICRO): A FRAMEWORK FOR THE REPORTING AND INTERPRETATION OF CLINICAL MICROBIOLOGY DATA

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Introduction: High-quality surveillance data is vital for combating the global threat of antimicrobial resistance (AMR). However, the utility of many AMR datasets is limited by inconsistencies in antimicrobial susceptibility testing methodology and reporting. No general recommendations exist for quality reporting of clinical microbiology data, a deficit the MICRO framework aims to address.

Methods: The MICRO framework was developed by an international working group of experts. Published AMR datasets were extracted and assessed for laboratory quality indicators and methodological and reporting problems. Key issues identified pertained to all aspects of the unambiguous reporting of clinical microbiology data. A series of expert working group discussions were held to generate and refine potential checklist items, prior to a consensus meeting where the final checklist was agreed.

Results: A 20-point checklist was developed covering all key aspects of clinical microbiology data reporting, applicable to all study types, from countries of all income levels from all world regions.

Conclusion: The MICRO checklist provides a worldwide universal framework to maximise the quality and utility of clinical microbiology data. Implementation of MICRO will improve surveillance and meta-analysis of AMR data, to better inform policy and interventions from local to global levels.

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