Real-World Applications and Practical Solutions to Antimicrobial Resistance: Insights from a COVID-19 Era Antimicrobial Stewardship Three-Studies Research Project
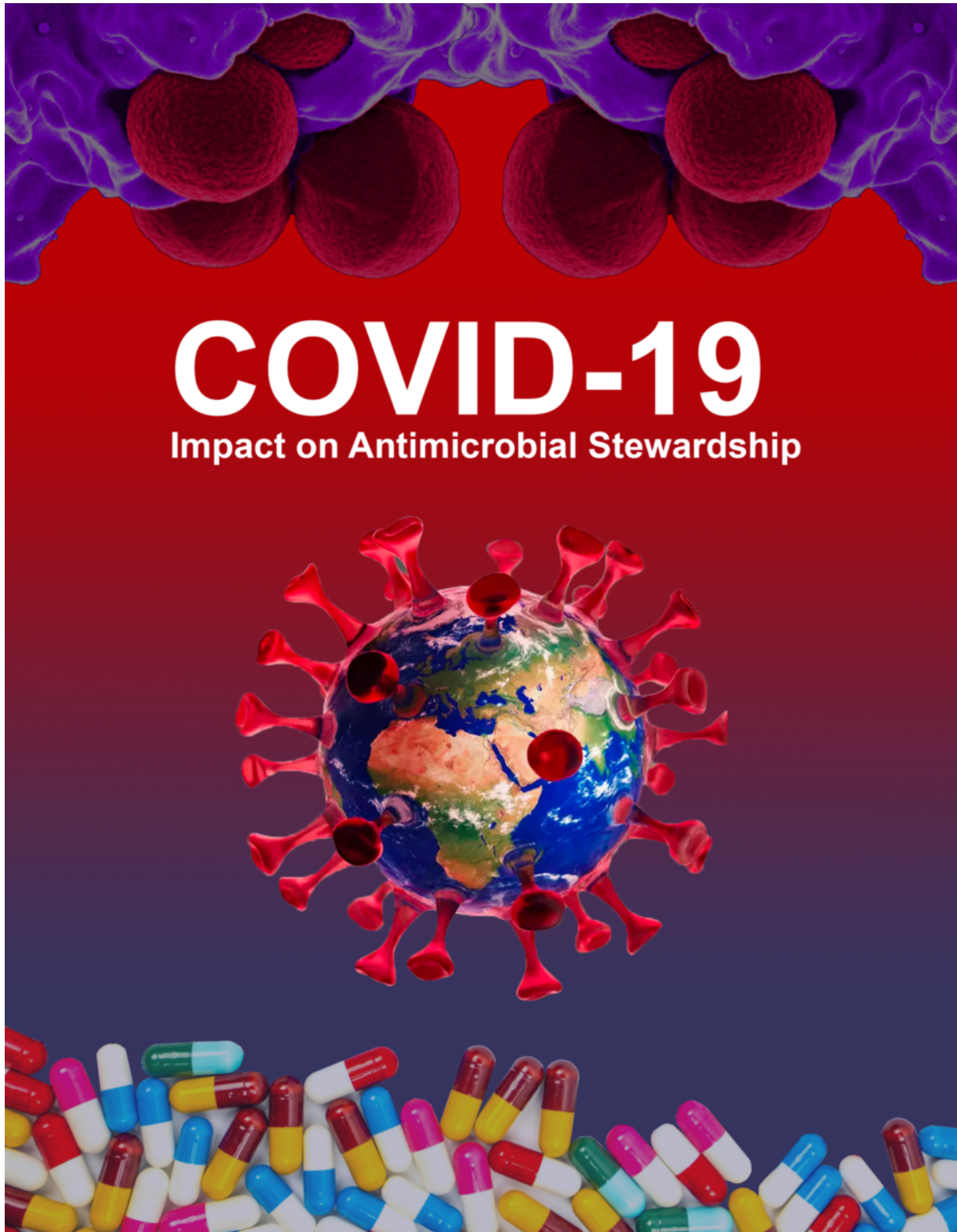
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1. **Development of an AMS Dynamic Dashboard**: This research advocates the creation of an interactive dashboard for Antimicrobial Stewardship (AMS), enabling healthcare professionals in the UK to monitor antibiotic usage and resistance patterns in real-time. Such a dashboard would provide essential data analytics, aiding in the management and refinement of AMS strategies, improving patient outcomes, and helping to minimise antimicrobial resistance.

2. **Roadmap for Implementing an Antimicrobial Stewardship Framework**: The study proposes a detailed roadmap for UK healthcare facilities to implement and enhance AMS frameworks. This would encompass guidelines on best practices, strategies for effective antibiotic usage, and methods for monitoring and evaluating AMS programmes, ensuring a systematic approach to antimicrobial stewardship.

3. **Use of AMS Reference Cards**: The research project suggests the implementation of AMS reference cards as quick-reference aids for healthcare professionals. These cards would assist in making informed antibiotic prescribing decisions, ensuring compliance with AMS protocols and reducing inappropriate antibiotic usage.

4. **Formulating AMR Strategies**: Insights from this study are instrumental in developing strategies to combat antimicrobial resistance. These strategies would be relevant across various levels – from local hospitals to national health services and global health organisations – aiming to reduce the spread of AMR.

5. **Enhancing AMS Educational Programmes**: The research highlights the necessity for improved AMS educational programmes. These would train healthcare professionals to handle complex situations experienced during pandemics or other health crises, focusing on the prudent use of antibiotics.

6. **Impacting Public Health Policies and Clinical Guidelines**: Insights from this research are poised to significantly impact the development and modification of public health policies and clinical guidelines regarding antimicrobial use and stewardship, ensuring they are based on evidence and applicable to contemporary healthcare challenges.

7. **Optimising Antibiotic Usage in Acute Care Settings**: Leveraging findings from the study could lead to more optimised antibiotic prescribing in acute care settings. This involves strategies to curtail antibiotic overuse and misuse, ultimately aiding in the reduction of antimicrobial resistance.

8. **Promoting Multidisciplinary AMS Collaboration**: The study emphasises the significance of multidisciplinary collaboration in effective antimicrobial stewardship. This would include a range of healthcare professionals such as doctors, pharmacists, and nurses working collectively to implement AMS practices.

9. **Data-Driven Decisions in Healthcare**: Employing data from this research could result in better-informed decision-making within healthcare, particularly in relation to antibiotic prescribing and the implementation of AMS programmes, ensuring decisions are informed by the latest and most relevant data.

10. **Contributing to Global Health Initiatives**: The research provides a crucial framework for global health initiatives that focus on antimicrobial resistance and stewardship, essential for devising comprehensive, research-informed strategies to effectively address AMR on a worldwide scale.

About the Author

I am Rasha Abdelsalam Elshenawy, I am a Clinical Pharmacist by background doing my PhD at the University of Hertfordshire in the UK. I am an Antimicrobial Stewardship Global Lead. I have an American Board of Pharmacy with 20 years of experience, and I am certified in Antimicrobial Stewardship. I have special interests in antimicrobial resistance (AMR) and antimicrobial stewardship (AMS). I led AMS and put measures against antibiotic-resistant bacteria and Five-years AMS strategic plan. I am a director of FADIC Antimicrobial Stewardship School, which was shortlisted for the Antibiotic Guardian award (2020). This school was shared in the Centre for Disease Control and Prevention (CDC) AMR challenge in 2018. Realising the global burden of AMR has fulfilled my passion for finding possible solutions to AMR through effective implementation of AMS and improving antibiotic prescribing and education.

Affiliations

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Parent publications

Interpretation of Comparative Analysis on Antibiotic Stewardship Pre and During COVID-19 in UK Secondary Care

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