

A Systematic review on Surgical Antimicrobial Stewardship in Nigeria

Michael Effah Ntiamoah MD¹, Lye-Yeng Wong MD², Jaymie Henry MD³, Jeremiah Igunma MD⁴, Ndubuisi Mokogwu MD⁵, Chizoba Efobi MD⁶

1 Department of General Surgery, Korle Bu Teaching Hospital, Accra, Ghana.
 2 Department of Cardiothoracic Surgery, Stanford University, Stanford, California, USA.
 3 Department of Cardiothoracic Surgery, Baylor College of Medicine, Houston Texas, California, USA.
 4 Department of Medical Microbiology, University of Benin Teaching Hospital, Benin City, Nigeria.
 5 Department of Community Medicine, University of Benin Teaching Hospital, Benin City, Nigeria
 6 Department of Surgery, University of Benin Teaching Hospital, Benin City, Nigeria.

Introduction

Antimicrobial resistance is a global public health threat that affects both developed and developing countries. The aim of this systematic review was to evaluate the current state of antimicrobial stewardship (AMS) in relation to surgical practice in Nigeria and identify areas for improvement.

Methods

We searched two major databases, PubMed and Google Scholar, for studies published between January 2010-December 2022 that evaluated AMS interventions in Nigeria using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. Two independent reviewers screened the articles for eligibility and extracted data from the included studies.

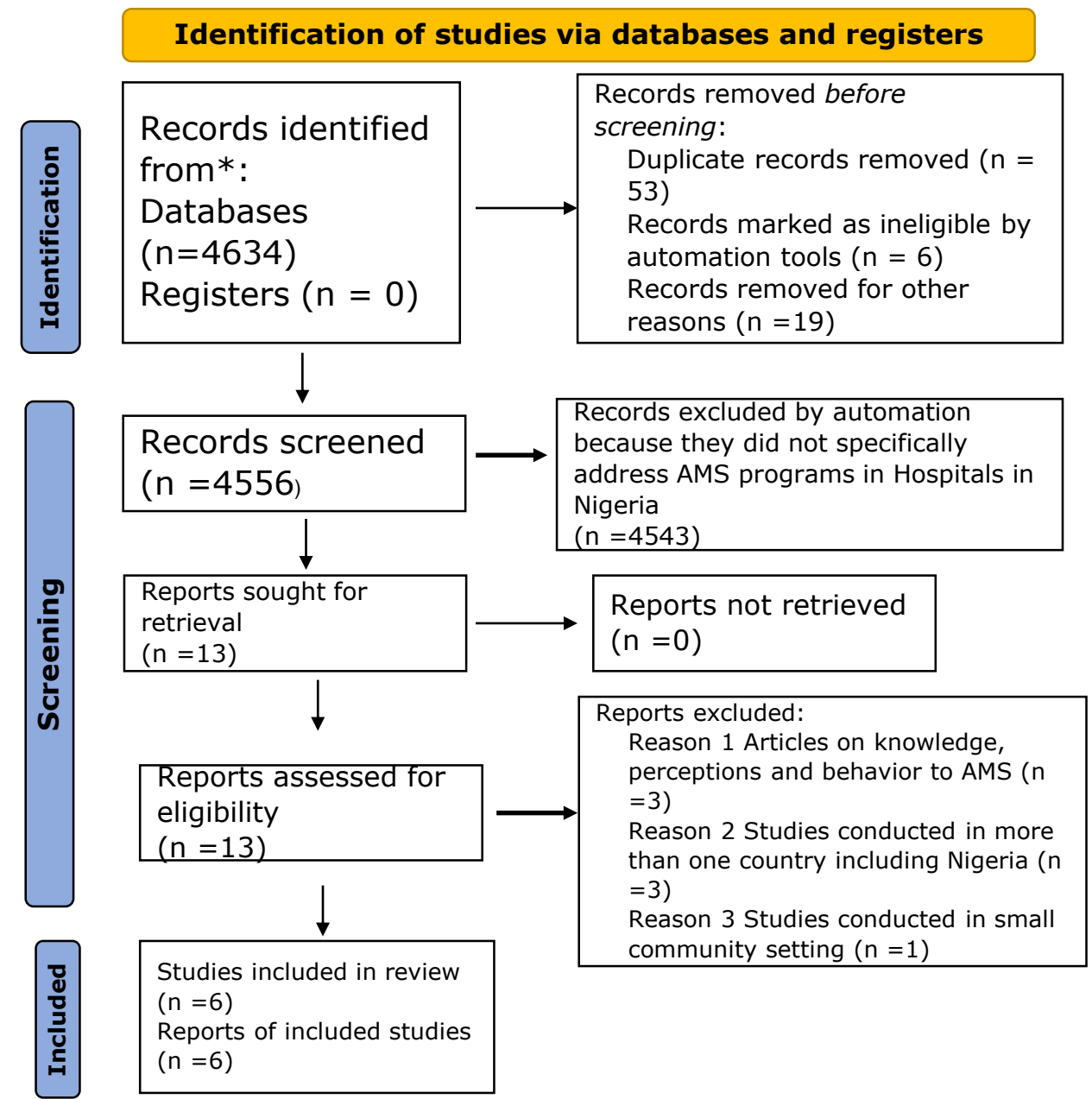
Results

Our search yielded a total of 4,634 articles, of which 6 met inclusion criteria. These 6 studies evaluated various AMS interventions in Nigeria, such as active pharmacist involvement, staff education, and reliance on information technology for auditing and feedback. 3 of 6 studies showed that only about 24% of the hospitals had active AMS teams. While some interventions showed little improvements in antimicrobial use, the majority (33%) showed no effect due to poor implementation of AMS programs. Overall, the results showed insufficient evidence to support widespread implementation of specific interventions in the Nigerian context.

Conclusion

AMS is crucial for reducing the growing threat of antibiotic resistance globally. However, there is a sizeable gap in the existing literature detailing multifaceted AMS interventions that are both effective and reproducible with none being specific to surgery. More high-quality trials are needed in Nigeria to address the region-specific challenges associated with implementation of AMS programs.

Figure 1



References

1. Abubakar U, Sulaiman SAS, Adesiyun AG. Impact of pharmacist-led antibiotic stewardship interventions on compliance with surgical antibiotic prophylaxis in obstetric and gynecologic surgeries in Nigeria. *PLoS One*. 2019;14(3):1-13.
2. Roberts AA, Fajolu I, Oshun P OC, et al. Feasibility Study of Prospective Audit, Intervention and Feedback as an Antimicrobial Stewardship Strategy at the Lagos University Teaching Hospital. *Niger Postgrad Med J [Internet]*. 2020;27(1):54-8.
3. Chukwu EE, Oshun PO, Osuolale KA, et al. Antimicrobial stewardship programmes in healthcare facilities in Lagos State, Nigeria: a needs assessment. *J Glob Antimicrob Resist [Internet]*. 2021;25:162-70.



Contact Info: scan QR code, see Michael Effah Ntiamoah, ntiamoaheffah@yahoo.com, +233245766404, <https://www.linkedin.com/in/michael-effah-ntiamoah->

