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Data driven behavioral change approach, synergy with the Global-PPS

Prof. Oyinlola Oduyebo

College of Medicine, University of Lagos, Lagos

Lagos University Teaching Hospital, Nigeria

Introduction: Antibiotic stewardship is the effort

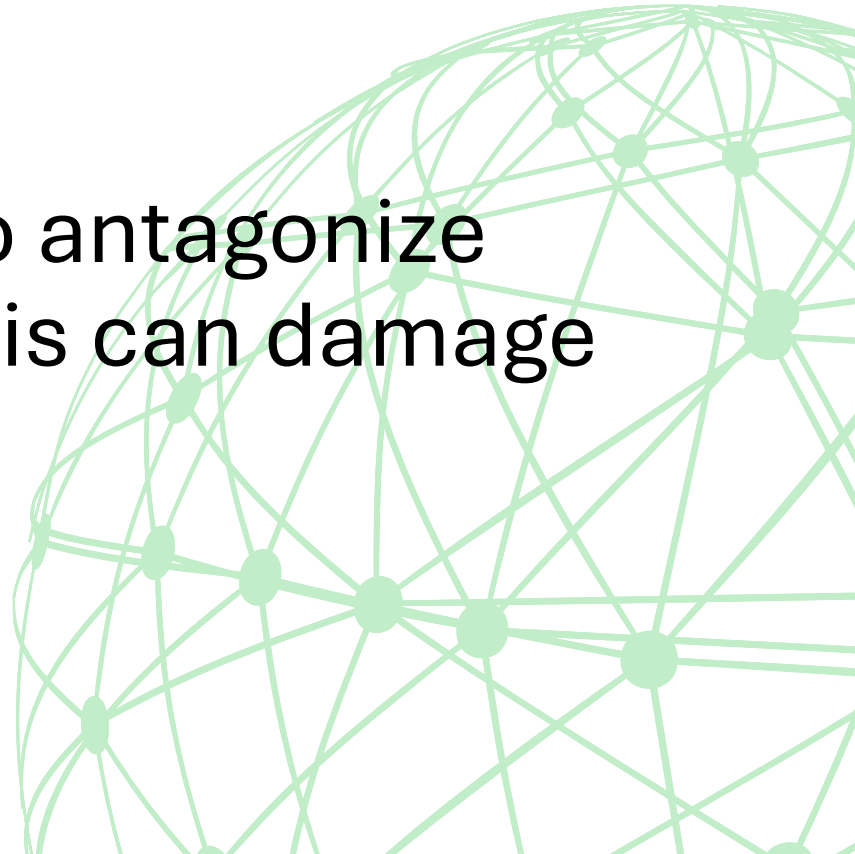
- ❑ to measure antibiotic prescribing
- ❑ to improve antibiotic prescribing by clinicians and use by patients so that antibiotics are only prescribed and used when needed
- ❑ to minimise misdiagnoses or delayed diagnoses leading to underuse of antibiotics
- ❑ to ensure that the right drug, dose, and duration are selected when an antibiotic is needed

Antimicrobial Stewardship program (ASP) is a behaviour change program

- EDUCATION – Can Very Effective for AMS
- Needed to disperse information in an accurate and timely fashion.
- Effective implementation of ASPs NEED TO incorporate education along with other active strategies
- NEED TO GENERATE DATA TO CONVINCE

Barriers to ASPs

- Appropriate personnel willing to devote the extra time and effort towards developing and enforcing ASPs.
- Resistance to change*
- ASP team members may not want to antagonize colleagues in other specialties as this can damage relationships



Why not only the supplemental strategies?

- Surveys of hospitals have found that practices to improve antimicrobial use are frequently inadequate and not routinely implemented
    - Education
    - Guidelines and clinical pathways
    - Streamlining or de-escalation
    - Dose optimization
    - IV-to-PO switch

How easy is this?

LAGOS UNIVERSITY TEACHING HOSPITAL

LUTH story till 2015 Global PPS

The Global-PPS is coordinated by the University of Antwerp and supported by bioMérieux

Plan of our hospital antimicrobial stewardship committee

- 2012: Set up of antimicrobial stewardship program
- Subcommittee to develop a proposal to obtain baseline information for our stewardship program.
- Barrier : There was no funding for the project
  - ➢Situation till the advent of the global point prevalence survey of antimicrobial consumption and resistance (GLOBAL-PPS) in 2015.
- LUTH participated in the **2015** **https://www.global-pps.com/** and were able to obtain data we considered enough to start the hospital stewardship program

LUTH story after PPS 2015, 2017, 2018 …

- Identified issues
  - Very high rates of antimicrobial prescribing
  - Under-utilisation of the clinical microbiology Labs
  - No information on MDROs
  - No antibiotic guidelines
  - Negative prescribing habits

- ** Hospital antibiotic policy statement written based on PPS data
- The first African MOOC in collaboration with BSAC & ICAN

Overview of the quantity and quality of antimicrobial prescribing in 2 Nigerian hospitals

	Tertiary care hospital **LAGOS** **Intervention in 2016**		Tertiary care hospital **ABUJA** **No Intervention**	
	2015	2017	2015	2017
Antibiotic prevalence adult wards	**80.6%**	**67.0%**	**58.7%**	**61.2%**
Antibiotic prevalence in pediatric wards	**89.7%**	**59.2%**	**50.9%**	**68.3%**
Surgical prophylaxis ≥24h	**93.0%**	**100%**	**90%**	**100%**
Targeted prescribing	**8%**	**1%**	**22%**	**3%**
Guidelines missing-medical adult wards	**96.7%**	**100%**	**21.9%**	**50.0%**
Guidelines missing-surgical adult wards	**97.9%**	**99.2%**	**6.0%**	**27.3%**
Guidelines missing-medical pediatric wards	**100%**	**100%**	**21.2%**	**70.0%**
Reason written in notes documented	**42.2%**	**42.0%**	**54.3%**	**52.1%**
Stop review date documented	**16.2%**	**16.7%**	**38.3%**	**36.3%**

Quality indicators and the antibiotic prescribing pattern in Nigerian Hospitals
GPPS 2018
8 hospitals

Quality Indicators	Frequency (n=2180)	Proportion (%)
Stop/Review Date		
Yes	740	33.9
Reason in note		
Yes	1599	73.4
Guideline compliance		
Yes	131	6.0
Treatment based on Biomarker data		
Yes	10	0.4
Treatment		
Targeted	69	3.2
Route of administration		
Parenteral	1396	64.0

Pattern of Microbiology Laboratory use versus Antibiotic prescribing in 8 Nigerian Hospitals

Hospital	Treatment		Bio-marker Use
	Targeted	No of MDROs	Yes
LUTH	2 (0.7%)	2	0 (0)
NHA	3 (1.8%)	2	0 (0)
ABUTH	7 (1.6%)	2	0 (0)
FETHA	21 (5.5%)	3	0 (0)
BUTH	14 (25.0%)	9	0 (0)
SSH	0 (0%)	0	0 (0)
UITH	5 (2.0%)	4	0 (0)
UCH	17 (3.8%)	11	10 (2.2)

NIGERIAN story after PPS

- Similar issues identified in all participating hospitals
  - Very high rates of antimicrobial prescribing
  - Under-utilisation of the clinical microbiology Labs
  - No information on MDROs
  - No antibiotic guidelines
  - Negative prescribing habits
- ****Awareness has been created in the country about global – PPS making AMS feasible

CLIMIDSON Guidelines for AMS in Nigerian hospitals

- **Entry point for stewardship is global PPS**
  - **Disseminate your data**
  - Meet with stakeholders
  - Establish AMS committee
  - Write out your antibiotic policy/guidelines based on global PPS findings
- Global PPS for M & E
- Education

- Write antibiotic guidelines/other guidelines
- Decide on the AMS strategy for your hospital based on prescribing rates and quality indicators
- Strengthen our laboratories so we can evaluate outcome measures
  - Antibiogram

CLIMIDSON: Suggested Antibiotic policy statement for Nigerian Hospitals

- List and categorise antimicrobials - based on AWaRe
- Prescriptions should be based on the hospital guidelines
- All antimicrobial prescriptions must have duration or date of review
- Indication for antimicrobial therapy must be written in patients' case notes
- Every prescription must be backed by (indicators)
    - microbiology investigations, a biomarker (e g procalcitonin)
- Parenteral antimicrobial therapy only where patient cannot take orally or where there are acceptable indications for the IV route
- Choose a stewardship strategy(ies)
- Monitor and evaluate compliance

IMPLEMENTATION STUDY OF LUTH ANTIBIOTIC POLICY AND GUIDELINES

Objectives

1. To determine the level of awareness of the existence of the LUTH Antibiotics policy and guidelines and access to it.
2. To determine the level of acceptability of the existing document.
3. To determine the rate of and reasons for compliance with the LUTH antibiotics policy / guidelines.
4. To identify the reasons for non-compliance with the use of antibiotics policy/guidelines.
5. To identify the challenges associated with the implementation of the policy.

DATA DISSEMINATION MADE THE DIFFERENCE

- Raised awareness about the guidelines document
- 4 clinical depts contributed to version 1
- Virtually every clinical dept (11 in all) contributed to the version 2

24th October 2023

As one of the first centres in the world to be accredited via BSAC's Global Antimicrobial Stewardship Accreditation Scheme (GAMSAS), Lagos University Teaching Hospital, in Lagos, Nigeria, has received major news coverage in their home country, with their success reported by the Nigerian Television Authority (NTA).

Developed by BSAC and led by experts in antimicr
GAMSAS initiative reviews, mentors, and accredits
through a robust assessment process with the aim
Excellence in the UK and around the world to tackl
spread of effective AMS across regions and countr

See: https://www.global-pps.com/update-on-nigerian-global-pps-network/

Conclusions

- Education of the hospital community seemed to have resulted in reduced rates of antimicrobial use in Lagos, **but had no effect on quality indicators.**
- Education may be a low hanging fruit for antimicrobial stewardship for resource poor countries but not enough to achieve the required behaviour change for AMS
- Most significant finding – WE CAN NOW DO ANTIMICROBIAL STEWARDSHIP IN NIGERIA

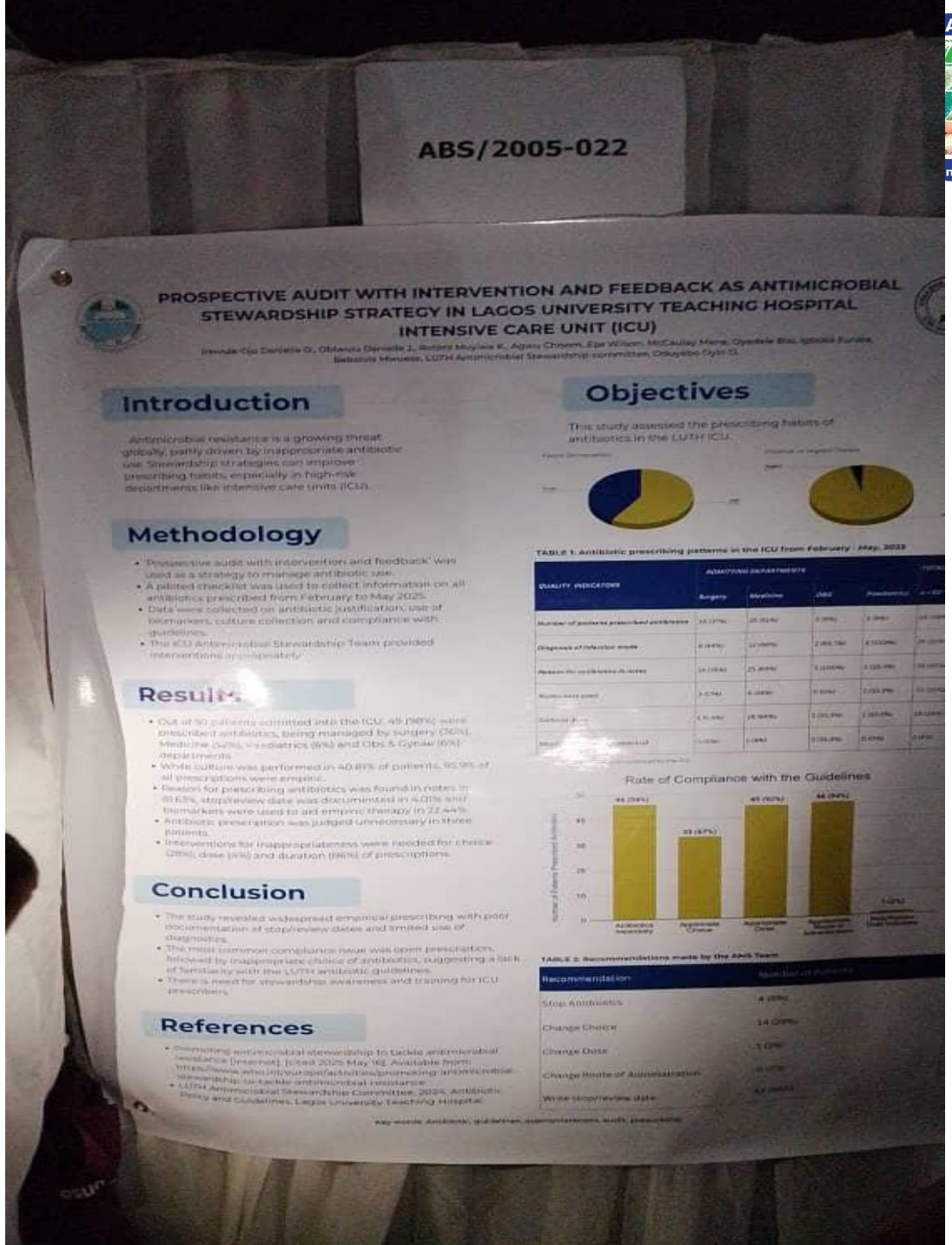
Original Article

Feasibility Study of Prospective Audit, Intervention and Feedback as an Antimicrobial Stewardship Strategy at the Lagos University Teaching Hospital

Alero Ann Roberts, Iretiolu Fajolu[1], Philip Oshun[2], Chioma Osuagwu[2], Opeyemi Awofeso, Edamisan Temiye[1], O. Oyin Oduyebo[2]

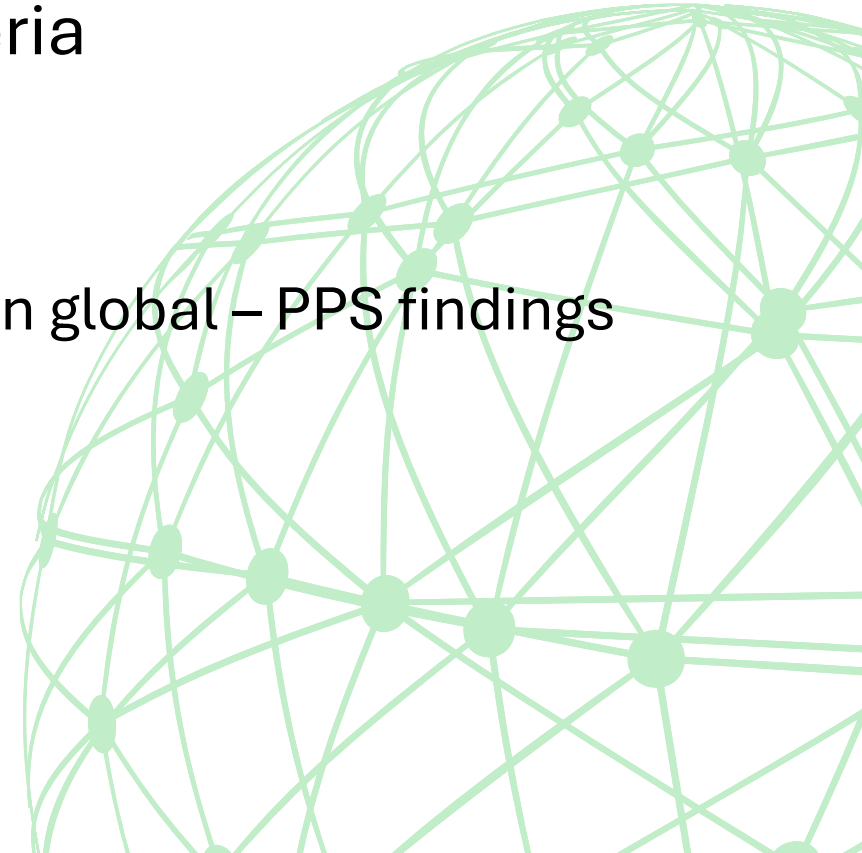
Departments of Community Health and Primary Care and [1]Paediatrics, Faculty of Clinical Sciences, College of Medicine, University of Lagos, [2]Department of Medical Microbiology and Parasitology, Faculty of Basic Medical Sciences, College of Medicine, University of Lagos, Lagos, Nigeria


ABS/2005-022
PROSPECTIVE AUDIT WITH INTERVENTION AND FEEDBACK AS ANTIMICROBIAL STEWARDSHIP STRATEGY IN LAGOS UNIVERSITY TEACHING HOSPITAL INTENSIVE CARE UNIT (ICU)
Objectives
ABS/2005-023


ABS/2005-022
PROSPECTIVE AUDIT WITH INTERVENTION AND FEEDBACK AS ANTIMICROBIAL STEWARDSHIP STRATEGY IN LAGOS UNIVERSITY TEACHING HOSPITAL INTENSIVE CARE UNIT (ICU)
Introduction
Antimicrobial resistance is a growing threat globally, partly driven by inappropriate antibiotic use. Stewardship strategies can improve prescribing habits, especially in high-risk departments like intensive care units (ICU).
Objectives
This study assessed the prescribing habits of antibiotics in the LUTH ICU.
Methodology
'Prospective audit with intervention and feedback' was used as a strategy to manage antibiotic use.
A piloted checklist was used to collect information on all antibiotics prescribed from February to May 2025.
Data were collected on antibiotic justification, use of biomarkers, culture collection and compliance with guidelines.
The ICU Antimicrobial Stewardship Team provided interventions appropriately.
Results
Out of 50 patients admitted into the ICU, 49 (98%) were prescribed antibiotics, being managed by surgery (36%), Medicine (32%), Paediatrics (6%) and Obs & Gynae (6%) departments.
While culture was performed in 40.8% of patients, 95.9% of all prescriptions were empiric.
Reason for prescribing antibiotics was found in notes in 81.63%, stop/review date was documented in 4.08% and biomarkers were used to aid empiric therapy in 22.44%.
Antibiotic prescription was judged unnecessary in three patients.
Interventions for inappropriateness were needed for choice (28%), dose (4%) and duration (86%) of prescriptions.
TABLE 1: Antibiotic prescribing patterns in the ICU from February - May, 2025
Rate of Compliance with the Guidelines
TABLE 2: Recommendations made by the AMS Team
Recommendation
Stop Antibiotics
Change Choice
Change Dose
Change Route of Administration
Write stop/review date
Conclusion
The study revealed widespread empirical prescribing with poor documentation of stop/review dates and limited use of diagnostics.
The most common compliance issue was open prescription, followed by inappropriate choice of antibiotics, suggesting a lack of familiarity with the LUTH antibiotic guidelines.
There is need for stewardship awareness and training for ICU prescribers.
References

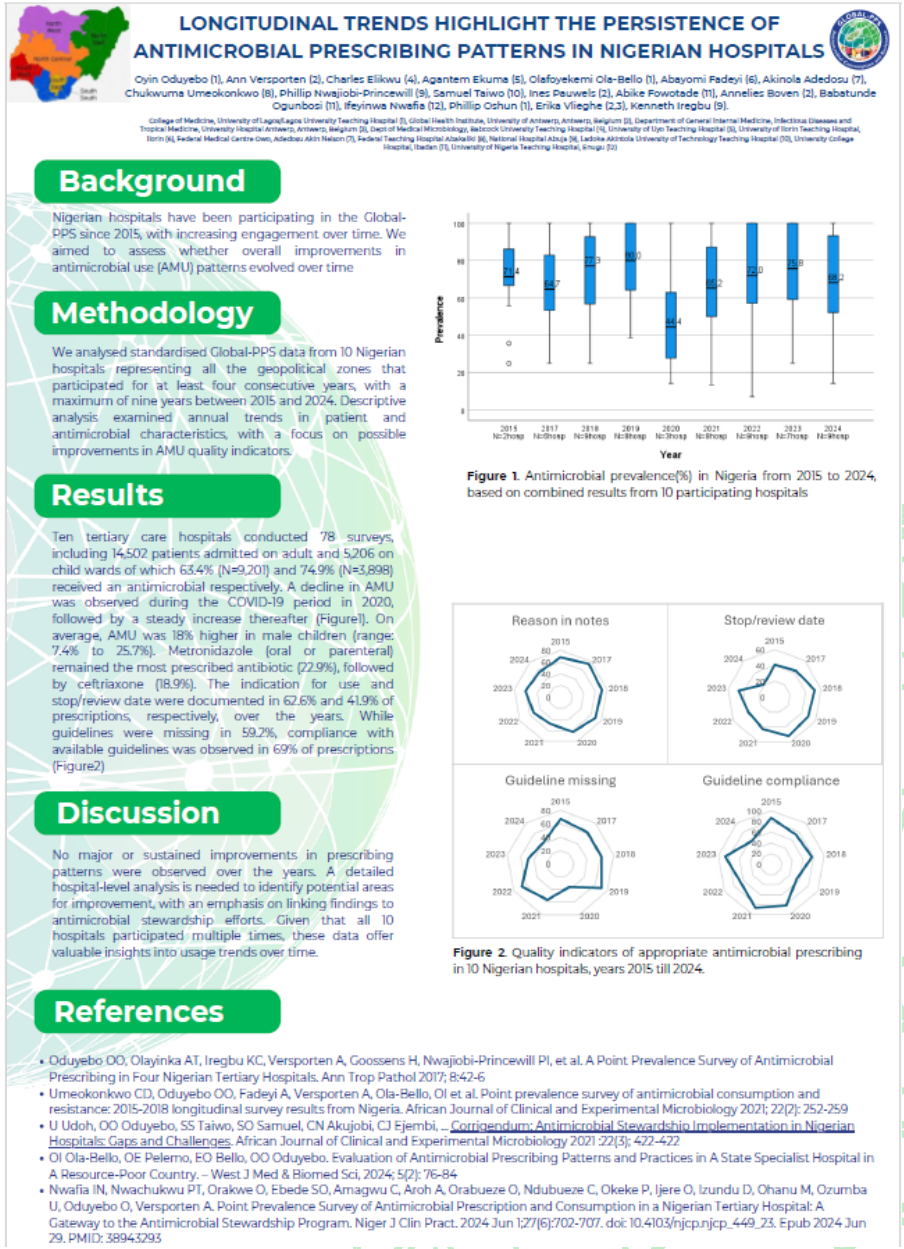
HUB & SPOKE MODEL FOR AMS
-To make LUTH a Centre of Excellence for AMS-

- HUB = our hospital (LUTH)
- Spokes = 5 healthcare facilities in Lagos, Nigeria
- Major goals
  - Perform Global PPS -ongoing
  - Decide on appropriate AMS interventions based on global – PPS findings



Poster at ICAN-2025

- THANK YOU
- FOR
- LISTENING



LONGITUDINAL TRENDS HIGHLIGHT THE PERSISTENCE OF ANTIMICROBIAL PRESCRIBING PATTERNS IN NIGERIAN HOSPITALS

Oyin Oduyebo (1), Ann Versporten (2), Charles Elikwu (4), Agantem Ekuma (5), Olafoyekemi Ola-Bello (1), Abayomi Fadeyi (6), Akinola Adedosu (7), Chukwuma Umeokonkwo (8), Phillip Nwajiobi-Princewill (9), Samuel Taiwo (10), Ines Pauwels (2), Abike Fowotade (11), Annelies Boven (2), Babatunde Ogunbosi (11), Ifeyinwa Nwafia (12), Phillip Oshun (1), Erika Vlieghe (2,3), Kenneth Iregbu (9).

College of Medicine, University of Lagos/Lagos University Teaching Hospital (1), Global Health Institute, University of Antwerp, Antwerp, Belgium (2), Department of General Internal Medicine, Infectious Diseases and Tropical Medicine, University Hospital Antwerp, Antwerp, Belgium (3), Dept of Medical Microbiology, Ibadcock University Teaching Hospital (4), University of Uyo Teaching Hospital (5), University of Ilorin Teaching Hospital, Ilorin (6), Federal Medical Centre Owo, Adedeyo Akin Nelson (7), Federal Teaching Hospital Abakaliki (8), National Hospital Abuja (9), Ladoke Akintola University of Technology Teaching Hospital (10), University College Hospital, Ibadan (11), University of Nigeria Teaching Hospital, Enugu (12)

Background

Nigerian hospitals have been participating in the Global-PPS since 2015, with increasing engagement over time. We aimed to assess whether overall improvements in antimicrobial use (AMU) patterns evolved over time

Methodology

We analysed standardised Global-PPS data from 10 Nigerian hospitals representing all the geopolitical zones that participated for at least four consecutive years, with a maximum of nine years between 2015 and 2024. Descriptive analysis examined annual trends in patient and antimicrobial characteristics, with a focus on possible improvements in AMU quality indicators.

Results

Ten tertiary care hospitals conducted 78 surveys, including 14,502 patients admitted on adult and 5,206 on child wards of which 63.4% (N=9,201) and 74.9% (N=3,898) received an antimicrobial respectively. A decline in AMU was observed during the COVID-19 period in 2020, followed by a steady increase thereafter (Figure1). On average, AMU was 18% higher in male children (range: 7.4% to 25.7%). Metronidazole (oral or parenteral) remained the most prescribed antibiotic (22.9%), followed by ceftriaxone (18.9%). The indication for use and stop/review date were documented in 62.6% and 41.9% of prescriptions, respectively, over the years. While guidelines were missing in 59.2%, compliance with available guidelines was observed in 69% of prescriptions (Figure2)

Discussion

No major or sustained improvements in prescribing patterns were observed over the years. A detailed hospital-level analysis is needed to identify potential areas for improvement, with an emphasis on linking findings to antimicrobial stewardship efforts. Given that all 10 hospitals participated multiple times, these data offer valuable insights into usage trends over time.

Figure 1. Antimicrobial prevalence(%) in Nigeria from 2015 to 2024, based on combined results from 10 participating hospitals

Figure 2. Quality indicators of appropriate antimicrobial prescribing in 10 Nigerian hospitals, years 2015 till 2024.

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