

Frequency, patterns and appropriateness of antibiotic prescription in patients presenting with fever in Sub-Saharan African health facilities: results from a large multi-country prospective cohort

Karifa Kourouma

Background:

In sub-Saharan Africa (SSA), febrile illnesses frequently result in empirical antibiotic prescribing due to diverse etiologies, overlapping clinical presentations, and diagnostic uncertainty. This study reported on antibiotic-prescribing patterns within the FISSA cohort, assesses alignment with WHO AWaRe guidelines, and identifies predictors of Watch antibiotic prescription.

Methods:

This was a nested analysis within a multi-center, multi-country, prospective cohort study conducted from 2019 to 2021, which enrolled febrile adults and children in emergency, general, or pediatric wards across health facilities in West, Central, and Eastern Africa. Descriptive statistics and multivariable logistic regression were used to examine prescription patterns and predictors of Watch antibiotics prescription.

Results:

Among 8,804 febrile patients, 4,807 (54.6%) received at least one antibiotic, with 22.1% receiving two or more. Children under five had the highest prescription rate (58.7%). Regionally, Eastern Africa displayed the highest prescription rate (73.6%), followed by Western Africa (55.0%). Most prescriptions were categorized as Access (58.2%) or Watch (45.4%). Logistic regression analysis revealed that patients aged ≥ 15 years [aOR=4.0; 95% CI: 3.3–4.7], those hospitalized [aOR=2.3; 95% CI: 1.8–2.8], and individuals diagnosed with malaria [aOR=1.6; 95% CI: 1.3–2.0] were significantly more likely to receive Watch antibiotics, whereas health centers and district hospitals prescribed fewer Watch antibiotics compared to tertiary facilities.

Conclusions:

Antibiotic use within the FISSA cohort was substantial and varied according to age, type of healthcare facility, and regional context. The proportion of patients receiving broader-spectrum antibiotics increased with age, disease severity, and specific country contexts. These findings highlight critical targets for antibiotic stewardship initiatives.

Karifa Kourouma, MD, MSc, is a physician and public health researcher with about a decade of experience in tropical medicine, clinical research, and epidemic preparedness. Based at the Centre National de Formation et de Recherche en Santé Rurale de Maferinyah and the Public Health Department at Gamal Abdel Nasser

University of Conakry, Republic of Guinea, he leads research projects on epidemic-prone diseases, antimicrobial resistance (AMR), and outbreak response, ensuring findings directly inform national health policies.



Dr. Kourouma plays a key role in international collaborations, serving as Guinea's focal point in consortia such as ALERRT, FORTIFIEDx, DECIPHER, and the SMV Delivery. Through these partnerships, he works to integrate advanced diagnostics, improved clinical management strategies and surveillance tools into Guinea's health systems while strengthening national ownership. His close collaborations with the Ministry of Health, the National Viral Hemorrhagic Fever Laboratory, and the AMR platform have been critical in shaping Guinea's epidemic preparedness. He holds a Master in Tropical Medicine from the Institute of Tropical Medicine (Belgium) and is completing a Master in Clinical Trials at the LSHTM alongside a sandwich PhD at the University of Antwerp and ITM to be completed in 2026.