



**NURU ABDU**  
Ministry of Health  
Eritrea

## **Antibiotic prescribing practice using WHO Access, Watch and Reserve classification and its determinants among outpatient prescriptions dispensed to elderly population in six community chain pharmacies in Asmara, Eritrea: a cross-sectional study**

### **Abstract:**

Globally, irrational prescribing of antibiotics in geriatrics is common with a significant risk of adverse health outcomes. If antibiotic prescriptions are not closely monitored, they are likely to expose patients to serious adverse drug events and antimicrobial resistance (AMR). Thus, the aim of the study was to assess antibiotic prescribing practice and its determinants among elderly ambulatory patients. An analytical and cross-sectional study was conducted retrospectively among all outpatient prescriptions dispensed to the elderly population (aged 65 years and above) in six community chain pharmacies in Asmara, Eritrea. Data were collected between June 16 and July 16, 2023. Antibiotic prescribing practice was assessed using the 2023 World Health Organization (WHO) Access, Watch, and Reserve (AWaRe) classification system. Descriptive statistics and logistic regression were performed using IBM SPSS® (V.26.0). Of the 2680 outpatient prescriptions evaluated, 35.8% (95%CI: 34.0, 37.6) contained at least one antibiotic. Moreover, a total of 1,061 antibiotics were prescribed in older adults. The most commonly prescribed antibiotics were ciprofloxacin (30.3%) and amoxicillin/clavulanic acid (13.7%). The Access category accounted for the majority of antibiotics (53.7%) with 32.1% from the Watch category. Prescriber qualification (AOR=0.60, 95%CI: 0.44, 0.81) and polypharmacy (AOR=2.32, 95%CI: 1.26, 4.27) were significant determinants of antibiotic prescribing in elderly population. Besides, sex (AOR=0.74, 95%CI: 0.56, 0.98), prescriber qualification (AOR=0.49, 95%CI: 0.30, 0.81), and level of health facility (AOR=0.52, 95%CI: 0.34, 0.81) were significant determinants of a Watch antibiotic prescription. In conclusion, antibiotics were prescribed to a considerable number of the elderly population, with more than half of them falling into the Access category. Further efforts by policy-makers are needed to promote the use of Access antibiotics while reducing the use of Watch antibiotics to mitigate risks associated with antimicrobial resistance.

### **Biography**

**Nuru Abdu** has completed his Bachelor of Pharmacy at the age of 23 years from Orotta College of Medicine and Health Sciences in Eritrea. He is the manager of Formulary Process and Pharmacoeconomics Section of the Medicines Information Services Unit, Ministry of Health. He has published more than 15 papers in international peer-reviewed reputed journals and has been serving as an editorial board member of PLOS ONE. He is the current Editor-in-Chief of the Journal of Eritrean Pharmaceutical Association and an active reviewer in more than 20 international peer-reviewed journals.