

Antibiotic dispensing practices during COVID-19 and implications for Antimicrobial Resistance (AMR): Parallel mystery client studies in Uganda and Tanzania

Abstract

Background: Over-the-counter antibiotic access is common in low-and-middle-income countries, including Tanzania and Uganda, and this may accelerate antimicrobial resistance. Our study explores critical aspects of the drug seller-client interaction and antibiotic dispensing patterns for simulated COVID-19 symptoms during the pandemic in two study sites in countries with different government responses to the pandemic.

Methods: Research assistants posing as clients approached different types of drug sellers such as

pharmacies (Pharms), drug shops (DSs), and accredited drug dispensing outlets (ADDOs) in Mwanza, Tanzania (nPharms= 415, nADDOs= 116) and Mbarara, Uganda (nPharms= 440, nDSs= 67), from June

10-July 30, 2021. The mystery clients (who held no prescription) sought advice for simulated COVID-19 symptoms from the drug sellers, documented the quality of their interaction with sellers and the type of drugs dispensed. Results: Adherence to COVID-19 preventive measures and vigilance to COVID-19 symptoms was low in both sites but significantly higher in Uganda than in Tanzania. A higher percentage of drug sellers in Mbarara (Pharms= 36%, DSs= 35%, p-value= 0.947) compared to Mwanza (Pharms= 9%, ADDOs= 4%, pvalue= 0.112) identified the client's symptoms as possibly COVID-19. More than three-quarters of drug sellers in both Mbarara (Pharms= 86%, DSs= 89%) and Mwanza (Pharms= 93%, ADDOs= 97%) sold

prescription-only medicines without asking for a prescription. A relatively high percentage of drug sellers that sold prescription-only medicines in Mwanza (Pharms= 51%, ADDOs= 67%) compared to Mbarara (Pharms= 31%, DSs= 42%) sold a partial course without any objection. Among the drug sellers who sold antibiotics, more drug sellers in Mbarara (Pharms= 73%, DSs= 78%, p-value= 0.580) compared to Mwanza (Pharms= 40% ADDOs= 46%, p-value= 0.537) sold antibiotics relevant for treating secondary

bacterial infections in COVID-19 patients.

Conclusion: Our study highlights low levels of awareness of and vigilance towards COVID-19 symptoms and widespread propensity to dispense prescription-only antibiotics without a prescription and to dispense partial doses of antibiotics. The implications of these for antimicrobial resistance are further

discussed. Our study also highlights the need for more efforts to improve antibiotic stewardship among drug sellers in response to the current pandemic and to prepare them for future health emergencies

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