

Over-the-counter sales of high-priority antibiotics is common: results of a global survey

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Background: The use of antibiotics without prescriptions exacerbates antimicrobial resistance (AMR). Here we characterize sales of antibiotics without prescriptions to gain insights on ways to strengthen antimicrobial stewardship.

Objectives: The objective of this study was to investigate the over-the-counter (OTC) sales of oral antibiotics and associated determinants in countries participating in a global antimicrobial resistance network

Methods: In 2023, we surveyed members of the AMR Insights Ambassador Network (www.amr-insights.eu) regarding practices and attitudes toward OTC sales of antibiotics. The AMR Network Ambassadors are diverse human and animal professionals from around the world. This self-administered, web-based, anonymous survey inquired about demographic characteristics, regulations, mode of access to antibiotics without a prescription, and a list of antibiotics available without a prescription grouped according to WHO classification systems.

Results: We received a total of 75 responses from AMR Network Ambassadors in 37 countries. Most respondents were male (65.33%), and more than half were between the ages of 25 and 50 (55.41%). The most common professions were physicians or healthcare workers (45.33%). Of the 75 respondents, 8 (11%) indicated that although regulations in their country only allow antibiotic sales by prescription, antibiotics could also be purchased OTC; 49 responses (65%) indicated that both prescription and OTC sales occur in their countries; 14 (19%) respondents indicated that sales are allowed only with a prescription and that antibiotics were well-

regulated. The remaining 4 (5%) responses were categorized as 'Other' or 'Don't know'. OTC sales occurred at the 'Pharmacy' (85.94%), 'Drug Store' (54.69%), 'Retail Store' (34.38%), and through the 'Internet' (23.44%). Respondents cite their knowledge results from their own experiences (71.43%) or experiences of acquaintances (58.73%). Penicillin (86.67%), tetracyclines (83.33%), and cephalosporins (70%) were identified as the top three most common antibiotics available without a prescription.

Conclusions: Over three-quarters of the responses in our study indicated that antibiotics are available for OTC sale in pharmacies. The availability of OTC antibiotics classified by the World Health Organization as critical for human medicine, including penicillins and cephalosporins, suggests that OTC sales of antibiotics pose risks for patients and impair antimicrobial stewardship efforts. The study further highlights the need for a global focus and collaboration to reduce the use of unprescribed antibiotics.