

A Call for Behavioural and One Health-Based Action for Anti-microbial Resistance in Pakistan

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Antimicrobial resistance (AMR), a silent pandemic, is a growing public health challenge in Pakistan. In a country where the healthcare system is already constrained and public hospitals have limited capacity to meet patient needs. AMR is turning previously treatable diseases into significant causes of morbidity and mortality. By reducing the effectiveness of available treatments, AMR not only worsens health outcomes but also increases healthcare costs for both individuals and the system as a whole.

In 2017, Pakistan's National Action Plan (NAP) on AMR, aligned with the World Health Organization's Global Action Plan was launched (1). Among 204 countries, Pakistan remains among countries with a high burden of AMR, ranking 53rd globally for age-standardised mortality associated with anti-microbial resistance in 2021 (2).

AMR awareness weeks are regularly observed, and the major drivers of resistance such as over-the-counter antibiotic sales, inappropriate prescribing, and incomplete antibiotic treatment courses are well recognised. However, resistance continues to rise. Pakistan is third largest consumers of antibiotics among LMIC's (3). Antibiotic misuse is often attributed to poor public knowledge. For many individuals, prolonged illness threatens daily income, and economic stability. This pushes people toward private or informal providers or self-medication. In such circumstances, seeking rapid symptom relief becomes a rational response rather than careless behaviour.

High levels of self-medication with antibiotics have also been reported among medical and healthcare students in Pakistan, highlighting a clear disconnect between knowledge and practice (4). Community pharmacists similarly operate under commercial pressure, weak regulatory oversight, and limited stewardship support, making non-prescription dispensing a practical survival strategy.

Limited diagnostic facilities and fear of missing serious infections leave clinicians with a single option, i.e., prescribing broad-spectrum antibiotics. Further AMR control efforts are complicated by use of antimicrobials in poultry & livestock (5).

The core challenge is actual behaviours at both the community and healthcare levels. Greater emphasis must be placed on behavioural modification among healthcare providers as well as within the community. Repeated training sessions & refresher courses for Antibiotic stewardship programmes will reinforce appropriate prescribing practices (6). Effective messaging, delivered through clinicians & pharmacists using digital platforms to raise awareness among the general population is need of the hour (7).

Awareness alone is not sufficient. While strengthening the healthcare system through better availability of healthcare facilities & improved diagnostic capacity and is essential, there is also a need to address the behavioural, economic, and systemic factors that influence patients' antibiotic-use practices. A coordinated, multisectoral approach that integrates the One Health concept is needed to combat AMR.

References

1. Ministry of National Health Services, Regulations and Coordination. National AMR action plan for Pakistan. Islamabad: Government of Pakistan; 2017. Available from: <https://www.nih.org.pk/wp-content/uploads/2018/08/AMR-National-Action-Plan-Pakistan.pdf>
2. Institute for Health Metrics and Evaluation. The burden of antimicrobial resistance (AMR) in Pakistan. Seattle: Institute for Health Metrics and Evaluation; 2023. Available from: <https://www.healthdata.org/sites/default/files/2023-09/Pakistan.pdf>

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3. Mirha H, Ali SH, Aamar H, Sadiq M, Tharwani ZH, Habib Z, et al. The impact of antibiotic resistance on the rampant spread of infectious diseases in Pakistan: insights from a narrative review. *Health Sci Rep.* 2024;7(4):e2050.
4. Faisal R, Khan FA, Khan MA, Ahmad H. Prevalence of self-medication with antibiotics and knowledge about antibiotic resistance: a cross-sectional study at a medical school of Pakistan. *J Rehman Med Inst.* 2025;11(3):107–12.
5. Sana SS, Atuahene D, Nagy V, Shaikh AM, Knop R. The rising threat of antibiotic resistance in poultry: veterinary and One Health perspectives. *Vet Sci.* 2025;12(11):1059.
6. Ehsan H. Antibiotic resistance in developing countries: emerging threats and policy responses. *Public Health Chall.* 2025;4(1):e70034.
7. Afifi H. The effectiveness of health campaigns on antibiotic resistance: a media and pharmacy practice perspective. *Infect Drug Resist.* 2025;18:5817–28.