Editorial

From Habitual Irrational Prescribing to Evidence-Based Care: The Need for Standardized Outpatient Prescription Practice in Pakistan

Kamran Khalid
Dean Centre, Program Director, Health Professions Education (HPE), College of Physicians and Surgeons Pakistan, Lahore, Pakistan
Email: kkkhawaja@hotmail.com

A rational prescription is more than a list of medicines; it is the clinical expression of pharmacological reasoning. Every drug, dose, route and duration written on it reflects a decision about what the patient needs, what the medicine can achieve, and what harm it may cause. This apparently routine act deserves closer scrutiny in Pakistan. A 2026 scoping review of 15 Pakistani studies reported an unweighted mean of 4.2 medicines per prescription, compared with the WHO/INRUD optimal range of 1.6–1.8; generic prescribing was 24.93%, antibiotics appeared in 45.01% of prescriptions, injections in 27.34%, and 72.20% of medicines were from the Essential Drug List. These figures are concerning, but they should not be interpreted as national prevalence estimates. The review combined heterogeneous studies from different healthcare settings, regions and patient populations and used unweighted descriptive averages rather than pooled estimates. Nevertheless, all 15 included studies exceeded the WHO/INRUD optimal range for medicines per encounter, while generic prescribing remained below the WHO target.[1] Earlier evidence points in the same direction. In Peshawar, analysis of 1097 prescriptions from general practice found an average of 3.32 medicines per prescription; more than 78% did not state a diagnosis or indication, while dose, duration and other essential prescribing information were frequently absent.[2] In Bahawalpur primary healthcare centres, the mean was 3.4 medicines per encounter, with antibiotics in 48.9% and injections in 27.1%; in two tertiary hospitals, the corresponding figures were 2.8 medicines and 51.5% antibiotic-containing encounters.[3,4] The persistence of such findings across different settings and over time suggests that the problem extends beyond isolated prescribing errors and warrants attention to prescribing practice, clinical systems and professional standards.

A prescription is also a communication and patient-safety document, and its quality cannot be judged by counting medicines alone. A 2024 mixed-methods study of 1232 prescriptions collected from 16 pharmacies in Rawalpindi found deficiencies in legibility and documentation of patient information, history and diagnosis, with polypharmacy also common. Interviews with physicians identified factors including limited continuing medical education, pharmaceutical industry influence, overcrowded practice settings and patient expectations as influences on prescribing behaviour.[5] Antibiotic use warrants particular attention because its consequences extend beyond the individual patient. In a prospective multicentre study of 1802 paediatric outpatient encounters published in 2025, antibiotics were prescribed in 29.4% of encounters; among antibiotic prescriptions, 69.2% belonged to the WHO Watch category and 29.7% to the Access category.[6] The denominator is important: the 69.2% figure describes the distribution among antibiotic prescriptions, not the proportion of all outpatient encounters receiving Watch antibiotics. More recent national consumption data provides another dimension. Analysis of IQVIA sales data from 2016–2023 estimated 12.88 billion defined daily doses of antibiotics in Pakistan, with broad-spectrum penicillins and fluoroquinolones among the most consumed classes and substantial increases in macrolide and cephalosporin consumption. The authors also identified limitations inherent in sales data, including the inability to distinguish prescription from non-prescription use and the exclusion of hospital procurement.[7] Prescribing behaviour also cannot be separated from medicine availability and procurement. A 2025 analysis covering 2970 primary and secondary healthcare facilities in Punjab found that only 44% of the Access-category antibiotic quantities specified in the Standard Medicine List were procured, while ceftriaxone accounted for 20.7% of projected antibiotic expenditure.[8] These findings point to a broader stewardship problem involving clinical decisions, medicine availability, procurement, diagnostic capacity, regulation and patient expectations. They do not remove the prescriber's responsibility for therapeutic decisions; rather, they demonstrate why professional education alone cannot address the entire problem.

The response should not be a campaign to reduce the number of medicines on every prescription. Polypharmacy is not synonymous with irrational prescribing, and a patient with multiple conditions may appropriately require several medicines. Rational prescribing means that each medicine has a defensible indication, an appropriate benefit-risk balance, and a suitable dose,

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route and duration, with the regimen communicated clearly. This is a clinical competency that should be taught, observed and assessed throughout medical education, bringing pharmacology, therapeutics, clinical reasoning and pharmacy practice into the same learning process. Teaching hospitals and other healthcare facilities should make prescription review part of clinical governance, using audit and constructive feedback to examine polypharmacy, generic prescribing, antibiotic choice, injection use and prescription completeness. Antimicrobial stewardship should be supported by local prescribing data, diagnostic and microbiological information, treatment guidelines and reliable access to appropriate medicines rather than relying on restriction alone. Pakistan already has important policy and regulatory instruments relevant to rational medicine use. The Drug Regulatory Authority of Pakistan maintains the National Essential Medicine List, which is intended to guide medicine selection and support appropriate procurement and availability.[9] Pakistan's National Action Plan for Antimicrobial Resistance 2.0 (2024–2028) provides the current national framework for antimicrobial stewardship, surveillance and governance, while DRAP's 2024 Guidelines on Minimum Standards for Establishment of Hospital Pharmacies provide standards for medicine-use management, quality improvement and safe pharmacy services.[10,11] The challenge, therefore, is not simply the absence of policy or professional standards, but their consistent translation into prescribing decisions at the point of care. This requires meaningful implementation, regular monitoring, constructive professional feedback and alignment of procurement with essential-medicine and antimicrobial-stewardship priorities. Better national surveillance is also needed because the available Pakistani evidence remains geographically and methodologically heterogeneous. The professional question is therefore not simply whether Pakistani clinicians prescribe too many medicines. It is whether every medicine written has a defensible clinical purpose, whether the selected medicine is appropriate for the patient and the infection when relevant, and whether the prescription communicates the therapeutic decision safely. Good prescribing practice is not acquired by rules alone; it is developed through early clinical teaching, supervised training, professional attitude and repeated exposure to good practice during medical education. Embedding these principles from the early stages of undergraduate education can help establish prescribing as a clinical skill that is reasoned, responsible and patient-centred. A prescription may occupy only a few lines on a page, but those lines bring together diagnosis, pharmacology, therapeutics, professional judgement and patient safety. Its quality should therefore be regarded as an important and visible component of the quality and safety of clinical care.

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