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COMMENTARY

Pharmacy Practice in Somalia: Addressing Educational and Regulatory Gaps: A Commentary

Zainab Sabrie [1,2]

[1]Faculty of Medicine and Health Sciences, SIMAD University, Mogadishu, Somalia; [2]Department of Pharmacy, Dr. Sumait Hospital, SIMAD University, Mogadishu, Somalia

Correspondence: Zainab Sabrie, Faculty of Medicine and Health Sciences, SIMAD University, 389H+29G, Jidka Warshadaha, Mogadishu, 2526, Somalia, Email zainabsabrie93@gmail.com

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Abstract: Pharmacists play a key role in ensuring optimal patient care. Despite the expansion of health training institutions in Somalia in recent years, pharmacy programs remain underrepresented. In addition, although pharmaceutical regulatory frameworks have recently been developed in Somalia, implementation and enforcement remain limited. These gaps are evident in pharmacy practice, marked by workforce shortages, inconsistent dispensing practices, and variability in pharmaceutical care standards. This commentary highlights the influence of educational and regulatory barriers on pharmacy practice in Somalia, as well as recent developments, including the approval of the Somalia Medicines Bill, a significant milestone in pharmaceutical governance. Ongoing improvement of pharmacy practice will depend on coordinated reforms in pharmacy education, workforce development, and regulatory oversight. Future policy initiatives should emphasize standardizing pharmacy curricula, strengthening professional regulation and practice oversight, and promoting collaboration among government, academia, and professional stakeholders.

Keywords: pharmacy practice, regulatory gaps, pharmacy education, Somalia

Introduction

The pharmacy profession has evolved from a traditional focus on compounding and dispensing medicines to a patient-centered one.[1] Pharmacists are recognized as medication experts within multidisciplinary healthcare teams, especially in low-resource settings, where they are the most accessible healthcare professionals.[2,3] To ensure appropriate medication use and good pharmacy practice, qualified, well-regulated pharmacists are needed.[4] However, the quality of the pharmacy profession depends on the availability of a regulatory framework, structured educational systems, and established practice standards.[5,6] Unfortunately, these critical components remain underdeveloped in many low-resource settings, resulting in inconsistent pharmacy practice and a lack of alignment with global standards.[7,8]

Somalia warrants special consideration because the negative impacts of long-term conflict and political instability on pharmacy education, training, and regulation, which are required to sustain professional practice, are severe. Decades of civil war led to the collapse of Somalia's health system, leaving it fragmented and weakly regulated.[9] Although health professions education has expanded considerably in recent years in Somalia, concerns remain regarding accreditation, quality assurance, workforce distribution, and regulatory oversight.[10] As the World Health Organization reported, based on IFTIN Foundation data, only 13 students graduated from pharmacy out of 5,822 total graduates from health programs.[11] This underscores the limited availability of pharmacy training programs, as prior evaluations have indicated. These evaluations documented a lack of pharmacy education/training options, insufficient numbers of trained professionals in the field of pharmacy, and limited institutional capacity for pharmaceutical regulation in Somalia, Somaliland, and Puntland.[12,13] While those evaluations occurred before the most recent health care reform measures were implemented, the information they contain provides important historical context for ongoing problems in the pharmaceutical sector. There remains very little recent research evaluating the distribution of the pharmacy workforce, standards of pharmacy education, the content of pharmacy curricula, and the professional competency of pharmacists working in

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Somalia. A recent scoping review of pharmacy education in sub-Saharan Africa identified a scarcity of literature describing the development of pharmacy education processes, accreditation schemes, competency standards, and educational evaluation in numerous countries across the region.[14] The lack of up- to- date information on this topic constitutes a significant knowledge gap for analyzing the current state and future needs of the pharmaceutical profession in Somalia. Since pharmacists play a key role in ensuring that drugs are used safely and properly, this commentary explains why it is important to address gaps in pharmacy education and regulation to enhance the provision of pharmaceutical services in Somalia.

Education and Regulatory Gaps

Pharmacy education is essential for equipping the pharmacy workforce with adequate numbers and appropriate competencies to deliver relevant pharmaceutical care.[15] Modern technology, including artificial intelligence, is gaining popularity in pharmacy training as a learning aid; nonetheless, research shows that such technologies should only complement traditional methods of learning due to concerns about credibility and usability.[16]

Enhancing pharmacy education and strengthening regulatory oversight are fundamental to improving pharmacy practice. Pharmacy practice in Somalia has significant gaps. - From past analyses of the pharmaceutical industry in Somalia, it is evident that there has always been a gap in pharmacy education and workforce capacity in Somalia, including limited training opportunities and shortages of qualified pharmaceutical personnel.[12] This is evidenced by the very low ratio of pharmacists to population in Somalia; it has been reported that Somalia has a ratio of 0.02 pharmacists per 10,000 people.[17] Although these data are now dated, they highlight longstanding workforce constraints that have affected the development of pharmacy practice in the country. Evidence from the literature further illustrates the severity of these gaps. A 2020 study in Mogadishu found that only 12% of surveyed pharmacy staff were qualified pharmacists; moreover, 86% of employees admitted to dispensing prescription medications without a prescription, a significant deviation from standard pharmaceutical practice.[18] Moreover, a nationwide study of the private health sector indicated that only 46% of pharmacies and dispensaries had licensed pharmacists, implying that properly trained pharmacy professionals did not staff many pharmacies.[19]

Together, these findings suggest that shortages of qualified pharmacy personnel remain a persistent challenge affecting the pharmaceutical sector's capacity in Somalia. Similar workforce challenges have been reported across low- and middle-income countries, where insufficient investment in pharmacy workforce development contributes to shortages of pharmacists and inequities in access to pharmaceutical services and expertise in medicines.[8,17]

The consequences of these workforce and educational limitations are particularly significant because pharmacies are among the most accessible forms of healthcare delivery in Somalia. Multiple assessments have found that pharmacies frequently serve as the first point of contact for individuals seeking medication and healthcare advice. However, evidence suggests that medicines are often dispensed without consultation with appropriately qualified healthcare professionals, reflecting the combined effects of workforce shortages, educational constraints, and limited professional oversight.[12,19–21]

Educational limitations are further compounded by regulatory challenges. The proper implementation of pharmaceutical regulations can enhance the quality of pharmacy practice.[22] The regulation of medical products is the responsibility of national regulatory authorities whose role is to enhance the quality of medicines, effectiveness, and safety within the country.[23,24] In Somalia, the private health sector is largely unregulated, and implementation of licensing requirements for pharmacies and medicine importers has historically been limited.[11] Similar concerns regarding weak enforcement capacity, limited institutional resources, and poor dissemination of regulations have been reported in earlier assessments.[12] In addition, it was noted that professional associations historically had limited authority over registration, licensing, accreditation, continuing professional development, and enforcement of professional standards, constraining their ability to support workforce regulation and quality assurance.[25]

Taken together, the available evidence suggests that pharmacy workforce shortages, limited educational capacity, and weak professional regulatory oversight are not isolated challenges but interconnected factors that collectively shape pharmacy practice in Somalia. Recent reforms, including the National Health Professionals Council Act, the establishment of the interim National Medicines Regulatory Authority, and approval of the Somalia Medicines Bill, provide an

important foundation for strengthening governance.[26–28] However, their long-term impact will depend on effective implementation and continued investment in pharmacy education, workforce development, and professional regulation.

Implications and Future Directions

Addressing pharmacy practice shortages will require a multifaceted approach, including pharmacy education, workforce development, and regulatory systems. While education develops the knowledge and competencies of future pharmacists, regulatory systems are essential for defining professional standards and ensuring safe and appropriate practice. Enhancing regulatory oversight is crucial to ensure consistent standards in pharmacy practice. Well-regulated systems, supported by efficient national regulatory authorities, are essential to guarantee the quality, safety, and appropriate use of drugs.[29] According to the FIP Nanjing Statements, pharmacy education needs to be competency-based and tailored to the needs of local health care systems. It also calls for the establishment of efficient quality assurance systems to keep pace with constantly changing educational standards. The recommendations provided herein apply to the situation in Somalia, where pharmacy education systems are varied and regulation is limited, and they imply the need to improve competency-based curricula and to establish quality assurance programs for all concerned parties, including academia and professional bodies.[30]

Developing a strong pharmacy practice in Somalia requires clear actions by relevant stakeholders. The health professional regulatory function responsible for licensing and registration should strengthen systems for pharmacist registration and licensing. The national regulatory agency for medicines should ensure proper regulation of medicines, including quality control, safe dispensing, and adherence to distribution standards. These functions are part of the regulatory system that facilitates safe and effective pharmacy practice. Universities should ensure the development of competency-based curricula and experiential learning. There may also be a need to cooperate with international organizations, such as the World Health Organization and the International Pharmaceutical Federation, to strengthen technical capacity, regulation, and workforce development.

A phased implementation strategy could work for Somalia. In phase one, activities would include workforce mapping, enhancements to licensing and inspections, and strengthening of regulatory bodies. Other phases could include curriculum harmonization, additional training, professional development, and the provision of clinical pharmacy services in healthcare facilities. Indicators that could be used to monitor implementation success include the ratio of pharmacists to patients, the number of licensed pharmacists and licensed pharmacies, compliance with the prescription-only medicine law, participation in professional development, and the provision of clinical pharmacy services in hospitals. Further research is needed to provide up-to-date information on the capacity of the pharmacy workforce, educational outcomes, and the effects of regulatory reforms in the country.

To synthesize the key challenges discussed above and highlight potential system-level responses, Table 1 summarises the main gaps in pharmacy education and regulatory systems, along with corresponding recommendations.

Table 1 Key Pharmacy Education and Regulatory Gaps and Proposed Interventions in Somalia

Domain	Key Gap	Recommended Intervention
Pharmacy education	Limited integration of competency-based training aligned with practice needs	Strengthen competency-based and needs-driven curricula aligned with health system priorities
Curriculum standardization	Variation in curricula and training outcomes across institutions	Promote harmonized national learning outcomes and standardized educational frameworks
Quality assurance	Limited structured quality assurance processes for pharmacy education	Develop and implement structured accreditation and continuous quality improvement systems
Regulatory framework	Limited implementation of comprehensive systems for pharmacy practice regulation	Strengthen regulatory systems for licensing, monitoring, and enforcement of pharmacy practice standards

(*Continued*)

Table 1 (Continued).

Domain	Key Gap	Recommended Intervention
Workforce development	Shortage of adequately trained pharmacy professionals	Expand training capacity and implement workforce planning strategies
System coordination	Limited coordination among key stakeholders in education and practice development	Enhance multi-stakeholder collaboration to align education, practice, and workforce needs

The summarized interventions highlight the need for coordinated, system-wide approaches integrating pharmacy education, workforce development, and regulatory strengthening to improve pharmacy practice outcomes in Somalia.

Conclusion

This commentary highlights the interconnected weaknesses across pharmacy education, workforce capacity, and regulatory structures that affect pharmacy practice in Somalia. Interventions should focus on pharmacy education, workforce development, and regulation to ensure that pharmacists receive adequate training and are properly positioned within a robust regulatory framework. Developing these interdependent pillars needs to become a top priority for policymakers and institutions across sectors, from education to licensing authorities, concerned with improving the delivery of pharmaceutical services in Somalia.

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