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Short communication

Community pharmacists' involvement in type 2 diabetes care in Kosovo: Services and barriers

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Introduction

Diabetes mellitus is widely recognized as one of the most significant global public health challenges and remains a major contributor to morbidity, mortality, and healthcare expenditure worldwide (WHO, 2024). Poor glycemic control and inadequate adherence to pharmacological and lifestyle interventions contribute to the development of microvascular and macrovascular complications, resulting in reduced quality of life and increased healthcare costs (ADA, 2024)

The management of diabetes has increasingly evolved toward multidisciplinary, patient-centered care models, where pharmacists have emerged as important contributors to chronic disease management (Krass et al., 2015). Through medication counseling, adherence support, therapeutic monitoring, and patient education, community pharmacists play a critical role in optimizing treatment outcomes and preventing diabetes-related complications. Their accessibility and frequent patient interactions position them as valuable healthcare providers within primary care settings (Pousinho et al., 2020).

In transitional healthcare systems such as Kosovo, non-communicable diseases represent a growing public health burden. Despite the expanding role of pharmacists internationally, pharmaceutical care services for patients with diabetes remain inadequately integrated into routine community pharmacy practice.

The aim of this study was to evaluate the involvement of community pharmacists in the provision of pharmaceutical care for patients with type 2 diabetes, as well as to identify the main barriers and potential strategies for improving service delivery in community pharmacy practice.

Materials and methods

A descriptive cross-sectional online survey was conducted among 141 licensed community pharmacists practicing in community pharmacies across Kosovo. Data were collected using a self-administered questionnaire. Ethical approval for the study was obtained from the Ethics Committee of the Pharmaceutical chamber of Kosovo (Approval No. 158, issued on 10 July 2024). Data were entered into Microsoft Excel and analyzed appropriately.

Results and discussion

A total of 141 community pharmacists in Kosovo participated in the study and completed the questionnaire. For the specific question regarding

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professional services provided to patients with type 2 diabetes, 130 responses were recorded (multiple responses were allowed).

Among the reported services, patient counseling was the most frequently selected option (n = 121; 93.1%), followed by medication therapy management (n = 112; 86.2%) and blood glucose measurement (n = 101; 77.7%). In addition, 80 respondents (61.5%) reported providing all three services. Overall, the findings indicate a high level of engagement of community pharmacists in diabetes care, with a strong emphasis on patient counseling and medication management, alongside substantial involvement in glucose monitoring and comprehensive service provision.

Regarding the perceived challenges in providing professional services to patients with type 2 diabetes, qualitative responses revealed several recurring themes. The most frequently reported barriers were limited time for patient–pharmacist consultations, poor patient adherence to therapy, and insufficient patient engagement in diabetes self-management.

Many pharmacists highlighted that time constraints in daily practice significantly limit the ability to provide comprehensive pharmaceutical care and deliver effective patient counseling. In addition, non-adherence to prescribed therapy, dietary recommendations, and blood glucose monitoring was commonly identified as a major obstacle. Respondents also noted that patients often have limited understanding of diabetes and its complications, which further negatively affects treatment outcomes and collaboration with pharmacists.

Another important issue identified was the lack of structured systems for patient follow-up, including the absence of integrated databases and electronic prescription systems. Respondents suggested that the implementation of e-prescriptions and digital patient records would improve continuity of care, facilitate tracking of therapy changes, and enhance medication safety.

Organizational barriers were also reported, particularly the lack of appropriate private space within community pharmacies for the provision of pharmaceutical care services. Furthermore, some pharmacists emphasized that patients do not always fully recognize or value the role of pharmacists in diabetes management, which may limit the effectiveness of counseling and professional interventions.

Suggested improvements included the introduction of routine blood glucose monitoring within community pharmacies, establishment of structured patient follow-up systems, improved patient education on diabetes management, and stronger interprofessional collaboration between pharmacists, physicians, and patients.

Conclusion

Community pharmacists play an important role in supporting the management of patients with type 2 diabetes; however, the delivery of pharmaceutical care is still influenced by several practical and system-related limitations.

Key challenges include limited time for patient interaction, suboptimal patient engagement in long-term disease management, and insufficient integration of digital tools and structured follow-up systems. Additional barriers such as inadequate working conditions and variability in patient awareness further affect the consistency of service delivery.

Addressing these issues through improved organization of pharmacy practice, enhanced patient education, and better integration with broader healthcare systems could strengthen the quality and impact of diabetes care provided in community pharmacies.

References

American Diabetes Association, 2024. Standards of care in diabetes—2024. Diabetes Care 47, S1–S350. https://doi.org/10.2337/dc24-SINT

Krass, I. et al., 2015. Adherence to diabetes medication: a systematic review. Diabet. Med. 32, 725–737. https://doi.org/10.1111/dme.12651

Pousinho, S. et al., 2016. Pharmacist interventions in the management of type 2 diabetes mellitus: a systematic review of randomized controlled trials. J. Manag. Care Spec. Pharm. 22, 493–515. https://doi.org/10.18553/jmcp.2016.22.5.493

World Health Organization, 2024. Diabetes. WHO, Geneva. Accessed 1 June 2026. https://www.who.int/news-room/fact-sheets/detail/diabetes