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Short communication

Initial experience with an ambulatory clinical pharmacy service at a Slovenian general hospital

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Introduction

Population ageing and the increasing prevalence of chronic diseases have led to a growing number of patients receiving multiple medications. Polypharmacy is particularly common among older adults and represents an important challenge in clinical practice due to its complexity and potential impact on patient care (Pazan and Wehling, 2021). Recent European data indicate that polypharmacy remains highly prevalent among older adults, emphasizing the need for careful management of pharmacotherapy in this population (Bennie et al., 2024).

Clinical pharmacists can contribute to the optimization of pharmacotherapy through medication review and the identification of medication-related problems. In Slovenia, pharmacist counsellor services have been established in primary healthcare settings for several years (Stuhec, 2021). In 2025, pharmacist counselling services were expanded to secondary and tertiary healthcare institutions and incorporated into the national compulsory health insurance programme, enabling the establishment of ambulatory clinical pharmacy services in Slovenian hospitals (Government of the Republic of Slovenia, 2025).

The ambulatory clinical pharmacy service at General Hospital Murska Sobota provides medication review and pharmacotherapy optimization for ambulatory patients referred by physicians from different medical specialties. The aim of this study was to describe the characteristics of patients attending the service, including patient demographics, medication burden, referral sources, and reasons for referral.

Materials and methods

A retrospective descriptive study was conducted at the ambulatory clinical pharmacy service of General Hospital Murska Sobota, Slovenia. The study included all patients who attended a clinical pharmacy consultation between December 2025 and May 2026.

Data were extracted from routinely prepared clinical pharmacy reports. The following variables were analysed: age, sex, number of medications, referring physician specialty, and reason for referral.

For the purpose of analysis, reasons for referral were grouped into four categories: polypharmacy, suspected adverse drug reactions, suboptimal therapeutic outcomes, and other clinical questions requiring pharmacotherapy review.

Descriptive statistical analysis was performed using IBM SPSS Statistics software. Continuous variables are presented as median and interquartile range (IQR), while categorical variables are presented as frequencies and percentages.

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The study was based on anonymized routinely collected data and did not involve any intervention or direct patient contact.

Results and discussion

A total of 146 patients were included in the analysis, with a median age of 72.0 years (IQR 65.0–79.0). The study population comprised 52.1% female and 47.9% male patients. Patients used a median of 11.0 medications (IQR 9.0–13.0), indicating a substantial medication burden.

The most common referring specialty was orthopaedics (32.2%), followed by primary care physicians (25.3%), internal medicine specialists (24.0%), and cardiologists (11.0%). Referrals from pulmonologists, psychiatrists, neurologists, and physiatrists were less frequent.

Polypharmacy was the most common reason for referral, accounting for 79.5% of all referrals. Suspected adverse drug reactions were identified in 12.3% of referrals, while suboptimal therapeutic outcomes and other clinical questions requiring pharmacotherapy review accounted for 5.5% and 2.7% of referrals, respectively.

The study population consisted predominantly of older adults with a high medication burden. These findings are consistent with previous reports demonstrating the high prevalence of polypharmacy among older adults and highlighting the need for careful medication management in this population (Pazan and Wehling, 2021; Bennie et al., 2024).

The predominance of referrals related to polypharmacy suggests that physicians primarily recognize ambulatory clinical pharmacy services as a valuable resource for the management of complex pharmacotherapy. The relatively lower proportion of referrals associated with suspected adverse drug reactions and suboptimal therapeutic outcomes suggests that polypharmacy was the predominant reason for referral to the service during the study period.

Most referrals originated from orthopaedics, internal medicine, cardiology, and primary care. In addition to caring for patients with multiple chronic conditions and extensive medication use, these specialties have established close interdisciplinary collaboration with clinical pharmacists within the hospital. This may have contributed to greater awareness of the service and increased utilization of pharmacist consultations compared with specialties where such collaboration is less established.

As ambulatory clinical pharmacy services were only recently introduced into Slovenian hospitals, these findings provide an initial insight into the characteristics of patients utilizing this service in a hospital setting. Future studies should evaluate medication-related problems identified during consultations and assess the implementation and clinical impact of pharmacists' recommendations.

Conclusion

Patients attending the ambulatory clinical pharmacy service were predominantly older adults with substantial polypharmacy. Most referrals originated from orthopaedics, primary care, internal medicine, and cardiology, while polypharmacy represented the most common reason for referral. These findings suggest that ambulatory clinical pharmacy services address an important need in the management of patients with complex pharmacotherapy and support the integration of clinical pharmacists into multidisciplinary outpatient care in Slovenian hospitals.

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