

Clinical pharmacists in the healthcare system

Editorial Article

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Clinical pharmacy, considered one of the significant transformations of the pharmacy profession over the last 50 years, has become an indispensable component of both pharmacy education and patient-centered pharmacy services in many parts of the world, including Türkiye. Clinical pharmacy, fundamentally aimed at rational drug use, is now practiced not only in hospitals but also in every area where the pharmacy profession is practiced, including community pharmacies. Today, clinical pharmacy is recognized as an important field within the multidisciplinary structure of healthcare. Because pharmacists serve as an important bridge between patients and physicians through the clinical pharmacy services they provide, their contributions to the healthcare system have been demonstrated in numerous studies in the literature.

Clinical pharmacists work directly with physicians, other healthcare professionals, and patients to ensure the best possible outcomes from prescribed medications, thereby enhancing the quality of patient care. According to the American College of Clinical Pharmacists (ACCP), clinical pharmacists assess patients' health problems and the appropriateness and effectiveness of prescribed medications. They advise patients on the most appropriate use of their medications. They monitor the results of medication therapy. They support the healthcare team's efforts in preventive measures such as exercise, diet, and vaccinations. They collaborate with the patient's physician and other healthcare providers throughout these processes, and they refer patients to their physicians to address any emerging issues.

Like the United States, the United Kingdom is a leading country in prioritizing the employment of clinical pharmacists. NHS England's Clinical Pharmacists in General Practice Programme, launched in 2015, employs over 1,000 full-

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time clinical pharmacists nationwide. The NHS Long Term Plan commits to increasing the number of these professionals working in primary care settings in the coming years. By employing clinical pharmacists not only in hospitals but also in primary care settings such as family medicine and certified pharmacies, the United Kingdom aims to identify and address more minor health issues at an early stage, thereby reducing the burden on the healthcare system and the economy.

Pharmaceutical care, a field in which clinical pharmacists take responsibility for patient medication management and aim to improve quality of life, and its advanced application in the 2000s, medication therapy management services (MTM), are increasingly becoming a part of the healthcare system. Studies show that these services significantly improve clinical outcomes, particularly by reducing readmission rates, emergency room visits, adverse drug events, and length of hospital stay.

Clinical pharmacy, founded in Türkiye in the 1990s under the leadership of Prof. Fikret Vehbi İzzettin at Marmara University, continues to develop today through both undergraduate courses and practical training, as well as postgraduate and residency programs. Studies published in recent years demonstrate that the aforementioned contributions of clinical pharmacists to healthcare have increased in our country as well. Nearly 40 clinical pharmacists who graduated from the clinical pharmacy residency program initiated by the Ministry of Health have been appointed or are awaiting appointment to major training and research hospitals in Türkiye. Legal regulations have defined the duties, powers, and responsibilities of clinical pharmacists, and efforts are underway to strengthen their place within the healthcare team and clarify their authority in areas such as medication management and patient counseling.

Clinical pharmacists collaborate with physicians in hospitals to review patient files, assess drug-related problems such as drug interactions and incompatibilities, monitor drug levels for narrow therapeutic range medications, and make recommendations for patient treatment plans. They provide medication reconciliation services to reduce discrepancies between previously prescribed medications and new medications for newly hospitalized patients. They support therapeutic decision-making by conducting pharmaco-economic assessments and actively participate in medication management committees, particularly antibiotic and anticoagulant management and nutrition teams. This collaboration plays a critical role in preventing medication errors and determining the most appropriate dose and route of administration for each patient. Because clinical pharmacists possess extensive knowledge of drug

reconstitution, dilution, stability, and compatibility, they support nurses in ensuring the safe and appropriate formulation of medications for specific patient groups (children, older patients, those with swallowing difficulties, cancer patients, and those receiving enteral/parenteral nutrition, etc.).

Clinical pharmacists provide education and counseling services aimed at improving patient adherence to treatment in both hospital and community pharmacies. As part of patient education, they explain in detail to patients or their caregivers how to use medications and medical devices, and if necessary, demonstrate them through interactive educational techniques, helping patients benefit more effectively from their treatment. Other services available in community pharmacies include geriatric pharmaceutical care and polypharmacy management, preventive health and immunization, women's health, and combating infectious diseases, obesity, and addiction.

The role of clinical pharmacists in the healthcare system is not limited to the fundamental topics discussed in this article; we see their authority and responsibilities expanding daily, as permitted by national healthcare regulations. In the future, the goal is to employ clinical pharmacists in every hospital and to systematically provide clinical pharmacy/pharmaceutical care services in community pharmacies. These developments will significantly contribute to reducing drug-related problems and improving the quality of healthcare.