SHORT REVIEW

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Managing Polypharmacy in Geriatric Patients: The Role of Clinical Pharmacists in Deprescribing

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ABSTRACT

Older adults frequently manage several chronic conditions simultaneously, which often results in the use of multiple medications, commonly referred to as polypharmacy. While some medications are necessary, excessive or inappropriate drug use increases the risk of adverse drug events, hospitalizations, cognitive decline, and decreased quality of life. Deprescribing, a clinical strategy focused on tapering or discontinuing unnecessary medications, has emerged as a critical approach to reducing the negative effects of polypharmacy. Clinical pharmacists, owing to their specialized training in medication management, are ideally suited to lead and support deprescribing initiatives. This review explores the causes and consequences of polypharmacy in the elderly, outlines the process of deprescribing, and highlights the pharmacist's role in promoting safer, more effective medication use among older adults.

KEYWORDS: Polypharmacy, Deprescribing, Geriatric patients, Clinical pharmacists, Medication management

INTRODUCTION

As global demographics shift, with increasing life expectancy and declining birth rates, healthcare systems are encountering a growing population of older adults requiring complex, long-term care. This demographic change has intensified the demand for medical services that are specifically attuned to the unique needs of elderly patients. Older individuals frequently present with multiple chronic conditions—commonly including hypertension, osteoarthritis, type 2 diabetes, congestive heart failure, and chronic obstructive pulmonary disease. Managing these illnesses typically involves the use of several pharmacological agents, prescribed over extended periods. As these medications accumulate, the patient is exposed to polypharmacy, which is commonly defined as the concurrent use of five or more drugs.(1-2)

While polypharmacy can be clinically appropriate in many cases, especially when each drug is prescribed with clear therapeutic intent, it also carries significant risks. The balance between benefit and harm becomes more precarious in older adults due to physiological changes associated with aging. For instance, hepatic metabolism and renal excretion—the two primary routes by which drugs are cleared from the body—decline with age, resulting in altered drug bioavailability and prolonged half-lives. This can increase the likelihood of adverse drug reactions (ADRs), drug–drug interactions, and medication-related hospital admissions. Additionally, age-related changes in body composition, such as increased fat-to-lean mass ratio and reduced total body water, further influence the distribution of lipophilic and hydrophilic drugs, respectively. (3)

In recent years, clinical pharmacists have assumed a central role in promoting and implementing deprescribing practices. Their specialized training in pharmacotherapy and medication safety equips them to conduct detailed medication reviews, identify potentially inappropriate medications (PIMs), and engage in collaborative care planning with physicians, nurses, and patients. Pharmacists also play a crucial role in educating patients and caregivers about the rationale for deprescribing, helping to overcome fears and misconceptions associated with medication discontinuation. Their ongoing involvement ensures that deprescribing is conducted safely, with appropriate monitoring for withdrawal symptoms or disease recurrence. As such, clinical pharmacists are increasingly recognized as key contributors to improving medication-related outcomes and enhancing the overall quality of care for the aging population. (4-5)

POLYPHARMACY: SCOPE AND IMPACT

Polypharmacy is generally understood as the use of five or more medications, but the core issue is not just the number of drugs—it's whether each one is still appropriate for the patient's condition. Older adults often see multiple healthcare providers, which can lead to fragmented prescribing without regular medication reconciliation. This can result in duplicate therapies, drug–drug interactions, or treatments for side effects caused by other drugs.(6)

The consequences of polypharmacy are well documented. It increases the risk of falls, hospital readmissions, cognitive

decline, and even mortality. Many older patients are prescribed medications that were once helpful but no longer serve a clear purpose. These drugs may remain on the medication list simply out of habit or oversight. Moreover, complex regimens can reduce adherence, particularly when patients are dealing with memory issues or physical limitations that make it hard to manage multiple pills each day.(7-8)

THE PROCESS AND PRINCIPLES OF DEPRESCRIBING

Deprescribing is a structured and deliberate approach to medication withdrawal, guided by clinical judgment and patient preferences. It involves evaluating a patient's entire medication regimen, considering the necessity and safety of each drug, and determining whether any can be stopped or reduced. The process often begins with a thorough review of all medications, followed by identification of those that may be inappropriate due to lack of efficacy, high risk of adverse effects, or changes in the patient's health goals.(9]

Several established tools support this effort. For instance, the Beers Criteria outlines medications that are often unsuitable for older adults. The STOPP/START tools provide similar guidance, flagging drugs that may be inappropriate and highlighting ones that may be missing but necessary. However, tools are only part of the picture. Successful deprescribing requires shared decision-making, where the patient is involved in conversations about why a medication may no longer be needed and what to expect if it is withdrawn.(10]

THE PHARMACIST'S ROLE IN DEPRESCRIBING

Pharmacists are among the most accessible healthcare professionals, and their role in ensuring medication safety has expanded significantly over the past few decades. In the context of deprescribing, clinical pharmacists bring unique skills to the table. They can identify potentially harmful medications, evaluate the clinical relevance of each drug, and suggest alternatives or dose adjustments based on current evidence and the patient's overall condition.Pharmacists regularly perform medication reviews in hospitals, outpatient clinics, and long-term care settings. These reviews often uncover issues such as therapeutic duplication, unnecessary drugs, or dosages that are no longer appropriate. In collaboration with physicians and other healthcare providers, pharmacists can develop deprescribing plans that reduce medication burden while maintaining clinical stability.Patient education is another key area where pharmacists make a difference. Many older adults are hesitant to stop medications they've taken for years, even when those drugs are no longer necessary. Pharmacists are well positioned to explain the rationale for deprescribing and provide reassurance about safety and monitoring. Their involvement often increases patient confidence in the process, which is essential for successful implementation.(5-11)

BARRIERS TO DEPRESCRIBING

Despite the benefits, deprescribing is not always easy to implement. Physicians may be reluctant to stop medications prescribed by other specialists or worry about the legal and clinical implications of withdrawing treatment. Time constraints and competing clinical priorities can also make it difficult to conduct thorough medication reviews during routine appointments.From the patient's perspective, fear of symptom recurrence, a strong belief in the value of medications, or a lack of understanding about potential harms can lead to resistance. In some cases, there may be social or cultural pressures that influence the perception of medication use.System-level challenges also play a role. Inadequate communication between care providers, absence of up-to-date medication records, and limited financial incentives for pharmacist-led services can all hinder deprescribing efforts. These issues require structural changes in how care is delivered and coordinated.(12-13)

ENABLING PHARMACIST-LED DEPRESCRIBING

To support pharmacists in deprescribing, several strategies can be adopted. First, pharmacists should receive ongoing education in geriatrics, including training in risk assessment and communication strategies specific to older adults. Second, healthcare systems should integrate medication review protocols into routine care, supported by electronic tools that flag potentially inappropriate medications.Policy-level support is equally important. Reimbursement models that recognize and fund pharmacist-led interventions can incentivize this important work. Encouraging collaborative care models, where pharmacists are embedded within interdisciplinary teams, can also strengthen the impact of deprescribing efforts.

On the patient side, outreach and education are crucial. Pharmacists can use plain language to explain how stopping certain medications might actually improve quality of life and reduce side effects. Building trust through consistent, empathetic communication helps patients feel comfortable with change.(14)

Research and Future Perspectives

There is growing interest in studying the long-term outcomes

of deprescribing. More research is needed to assess how pharmacist-led interventions affect hospitalization rates, quality of life, medication adherence, and overall healthcare costs. New digital tools and data analytics may also help tailor deprescribing plans based on individual patient profiles.

Looking forward, deprescribing should be recognized as a core component of chronic disease management in older adults. As part of this shift, clinical pharmacists will continue to take on a more proactive role in preventing medication-related harm. Incorporating deprescribing into healthcare guidelines and national health policies will be essential to achieving widespread adoption.(15-16)

CONCLUSION

Polypharmacy remains a significant issue in the care of older adults, often leading to complications that could be avoided with careful medication management. Deprescribing offers a solution—one that respects the patient's evolving needs while reducing unnecessary risk. Clinical pharmacists, with their deep understanding of pharmacotherapy and their close relationships with patients, are ideally positioned to lead this effort. Their involvement can streamline medication regimens, enhance safety, and improve outcomes. As healthcare systems continue to adapt to the needs of aging populations, supporting and expanding the pharmacist's role in deprescribing will be vital.

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