
The Challenges of Medication Management in Patients with Alzheimer's Disease

Managing a number of medications is challenging for any patient, but seniors often have greater difficulty due to sensory impairment, multiple medical conditions, and/or financial restraints. In addition, if cognitive impairment is a factor, the complexity of managing a medication regimen is raised exponentially. Not only does caregiver administration and monitoring of the medications become more difficult, but the types of medications that can be safely used is decreased. Although these challenges cannot always be completely resolved, support can be provided through a healthcare team.¹ This article will demonstrate the integral role a pharmacist has in assisting patients with medication-related concerns.

by Cheryl Wiens, PharmD

The community pharmacist has frequently been touted as the “most accessible healthcare professional.”² Indeed, an appointment usually is not necessary and, in each community, pharmacies often are open long hours. The functions of a pharmacist can be summarized as “ABCS”—first suggested by Knowlton.³ The “ABCS” are a helpful review of the pharmacist’s role and are defined as follows:

- **A**ssessment of medications and prescriptions
- **B**ottling of the pharmaceuticals
- **C**ounseling (of patients, caregivers, other clinicians)
- **S**urveillance, or monitoring, of medications

These roles also are described in other publications.^{4,5}

Dr. Cheryl Wiens is a Clinical Assistant Professor in the Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, Alberta.

Assessment

Patients with Alzheimer’s disease (AD) have a decreased cholinergic reserve and are therefore particularly susceptible to the risk of anticholinergic side effects with certain medications. Unfortunately, since medications with anticholinergic side effects are available without a prescription, many patients or caregivers may unknowingly purchase a harmful medication. Scopolamine patches, for example, are effective for reducing motion sickness but have been associated with delirium.^{6,7} Also, antihistamines or antiemetics are frequently used products that have excessive cholinergic inhibition.^{8,9} All patients with AD should be encouraged to discuss medication needs with their doctor and pharmacist. A pharmacist can assist in selecting a safe formulation, should a cough syrup or other over-the-counter (OTC) medication be required.¹⁰

Healthcare providers should not forget that many alternative and herbal products also have anticholinergic properties. These products often are overlooked. Patients and caregivers should be instructed to always bring all medications—including complementary supplements—to clinic visits. Pharmacists can conduct medication histories, counsel patients on the safe use of alternative products and provide information to patients, caregivers, and other clinicians. A drug-regimen review can be conducted by a pharmacist to determine medications that could be affecting cognition or behaviour.¹¹ In fact, pharmacists frequently recommend discontinuation of medications upon review.^{12,13}

As AD progresses, many medications are discontinued because they are not expected to provide a tangible benefit and may be viewed as more of a burden for the patient. When discontinued,

certain medications have to be carefully withdrawn. Based on knowledge of pharmacokinetics and pharmacodynamics, pharmacists may be able to suggest tapering regimens and can be of assistance in monitoring withdrawal complaints.

Adverse drug reactions also are very common, accounting for up to 20% of hospital admissions in the elderly.¹⁴ Although age itself is not a risk for increased drug reactions,¹⁵ seniors often are taking more medications because of chronic diseases and, therefore, would benefit even more from a pharmacist's drug-regimen review.¹³

Medication errors and adverse events are clinically significant and costly problems in our current healthcare system.^{16,17} Pharmacists are able to provide advice on which medications are best tolerated in a senior population, and can assist in interpreting the significance of drug interactions and how to avoid those that are clinically significant. Working with pharmacists can therefore improve patient outcomes by reducing potentially harmful drug interactions and selecting medications that may be most appropriate for a specific patient.

Reducing costs may be a priority for certain patients since a co-payment—or even the full cost—is borne by the patient. Elderly families have a higher prescription out-of-pocket burden compared to younger families, and some patients may choose to go without filling prescriptions in order to save money.¹⁸ In some cases, a pharmacist may be able to review a patient's medication

profile to assist the healthcare team in reassessing the need or potential benefits of continuing certain medications. Also, there often are less expensive medications which can be considered as substitutes for more expensive products. Pharmacists also can make suggestions about the use of OTC products which, when factored into the overall cost of a medication regimen, may dramatically increase costs.

Bottling

Today, most dispensing functions are carried out by technicians. However, it may be helpful to think of “bottling” in terms of recommending appropriate administration devices (*e.g.*, calendar packaging). Calendar packaging (*e.g.*, dosette, blister package) may slightly increase cost, however it may be the most efficient and safest way to organize medications for a patient. Although there is little evidence to indicate that calendar packaging dramatically increases compliance, it does make it easier for caregivers and patients to administer medications and note whether the medications have been taken out of the package.

Calendar packaging is not necessarily appropriate for every patient. Although some devices have additional features, such as raised symbols for patients with poor eyesight, other devices are not easy to manipulate if a patient has arthritis. Discussing the different devices available can help a patient and caregiver select the most appropriate product to meet their needs.

Pharmacists also can advise patients on devices that assist with

the use of other products, such as eye drops, metered-dose inhalers or nasal sprays. These products often are difficult to administer, even if an individual does not have dementia, because of decreased coordination and dexterity.¹⁶ Other important monitoring tools, such as glucometers or blood-pressure meters, may have been purchased through a pharmacy. The pharmacist can educate the patient and caregiver on appropriate use and handling of such devices in monitoring medical conditions.

Safe use of medications also is a primary responsibility of the pharmacist. Ensuring that child-proof containers are used may be necessary for the safety of a patient with AD. Discussing safety issues in the home with the patient and caregiver can result in the appropriate measures being taken.

Counselling

Considering the number of medications available and the rapid rate at which new products are entering the market, it is not surprising that the Canadian Medical Association (CMA) has noted a deficiency in knowledge of medications.¹⁹ Education of patients, caregivers, and other health professionals is an important role for pharmacists.

Patients may not be aware of OTC medications that should be avoided, and they may not be familiar with the complications that can arise as AD progresses. The pharmacy is an ideal place to make pamphlets and other educational materials available. Patients or caregivers often visit the pharmacy on a monthly basis. The

pharmacist can then build on information already given to the patient, or provide him/her with information on new programs or services that could be of benefit. Education and support for patients and caregivers are primary concerns and are some of the most significant ways in which a pharmacist can reduce medication errors.¹⁶

Because the caregiver is ultimately responsible for the use of as needed (*pro re nata* or “prn”) medications, education of the caregiver is essential. Counselling the caregiver about appropriate use and the accepted frequency of use of a prn medication is important. Also, the caregiver may not be familiar with a medication if it is not given frequently. An accessible healthcare provider who is available to answer questions is a valuable resource.¹¹

Education of healthcare providers also is an important task. Pharmacists spend their careers focusing on pharmaceutical products, and their expertise can be shared in a formal or informal setting. Ensuring that medication issues are dealt with prior to the medication being prescribed would be more efficient for everyone involved.

It is important to keep in mind that, while pharmacists are readily accessible to patients, they often have little information from a patient’s chart. It is helpful to communicate significant changes or indications to the pharmacist if he/she is to build on patient education that has already been initiated. In addition, the distribution of samples is commonplace in today’s competitive pharmaceuti-

cal market. If a prescriber decides to dispense a sample to a patient, that prescriber often is the only health professional to know the patient is taking that medication. Pharmacists, in contrast, must make decisions about drug interactions and addition of medications to calendar packaging, and/or provide medication lists to other specialists, without the knowledge of the dispensed samples. In order to provide seamless care, patients would benefit greatly if samples or other physician-dispensed items were noted on the pharmacy profile. Grissinger *et al*¹⁶ noted that many medication errors occur because of poor order communication between the physician and pharmacist.

Surveillance

A simple screening process that pharmacists often do is checking the refill dates for medications. If a patient is “late” picking up or ordering refills, pharmacists can follow up with the patient or caregiver. Nonadherence is common in all patient populations but ranges between 25% and 50% in seniors.² Verbal counselling and other visual reminders have been shown to improve compliance.² Pharmacists also can be involved in self-medication programs that assess adherence and medication-related problems in-hospital, before a patient is discharged.²

Pharmacists can monitor target symptoms by encouraging caregivers to document (*e.g.*, using a diary) behavioural problems or progression of dementia. Pharmacists frequently see patients in the pharmacy and can ask

about medication-related concerns (*e.g.*, side effects) or adherence.¹¹ Screening for problems can prevent minor issues from turning into major issues, and pharmacists may encourage a patient to see his/her physician earlier than scheduled if a problem has arisen. A follow-up telephone call also can be of benefit in providing education or resolving medication concerns.^{13,20} Seevak *et al*¹³ found a significant number of medication-related concerns in patients, however, these concerns may not have been discovered if the patients had not been specifically asked about them. Another important finding was that dealing with these patient concerns did not lead to an increased workload for physicians.

A number of pharmacists and/or pharmacy staff members also do home visits on a regular basis to deliver medications. A formal consult also can be requested. The pharmacist may be able to provide ample information about medication issues, such as hoarding or medication organization, in addition to a general description about the home situation. Information obtained from pharmacists who conduct home visits can be a valuable resource when designing a care plan for patients and their caregivers.

Beyond the “ABCS”

Pharmacists can contribute to improved medication management in many other ways, including:

- Participating in formulary reviews at the institutional or provincial level;
- Participating in research; and

- Becoming involved with educational endeavors to improve knowledge and awareness of medication-related concerns for other healthcare providers. The *Drug Use in the Elderly Quarterly* newsletter, produced in Alberta by the Alberta Medical Association and the Alberta College of Pharmacy, is a great example of this type of educational endeavor. Newsletters are co-authored by a physician and pharmacist, which improves collaboration and ensures that information needs are met for both disciplines.

It also is important to keep in mind that the ABCS apply not only to community pharmacists, but also to hospital pharmacists. Pharmacists working on all wards, not just the Geriatric Assessment Unit,²¹ can provide support for optimizing medication management in patients with AD.

Teamwork is the optimal approach to healthcare in seniors.²² A Canadian study of community-dwelling subjects found that the majority of medication issues can be resolved when a multidisciplinary team is involved, leading to improved compliance,

reduced adverse drug reactions, and a trend toward reduced hospital visits and hospital admissions.²³

Most recently, pharmacists have been recognized through the Romanow Commission report for helping Canadians achieve better results from their medications.²⁴ Both the Romanow Commission and the Mazankowski Report²⁵ highlight the need for pharmacists to play an important role in the healthcare of Canadians. Indeed, pharmacists continue to reduce the risks and improve outcomes for patients with AD.

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