

Preventing Adverse Drug Events in Seniors

January 3, 2008

Adverse drug events are more common in older adults because they are prescribed more drugs and are effected differently by these drugs than their younger counterparts. A review article written by Tufts University School of Medicine clinicians, published in *American Family Physician*, summarizes steps that physicians and other healthcare providers can take to help older adults avoid overuse, misuse, and underuse of medications.

"About one in three older persons taking at least five medications will experience an adverse drug event each year, and about two-thirds of these patients will require medical attention. Approximately 95 percent of these reactions are predictable, and about 28 percent are preventable," cite the authors, Cung Pham, MD, fellow in the Tufts University Family Medicine Residency at Cambridge Health Alliance's Malden Family Medicine Center, and Robert Dickman, MD, Jaharis Family Chair of Family Medicine at Tufts University School of Medicine.

Pham and Dickman summarize interventions for reducing inappropriate prescriptions as follows, while noting that there is limited research to support clear interventions.

Avoiding Misuse of Medications

If a drug is listed on the Beers Criteria, a widely-adopted list of drugs that labels medications as "potentially inappropriate" for older persons or for older persons with specific medical conditions, the authors report that physicians can avoid those drugs apt to cause a severe adverse drug event simply by selecting alternatives. If there is no alternative, the best choice for a necessary drug is to start at the lowest effective dose and, when possible, discontinue the drug.

Avoiding Overuse of Medications: Polypharmacy and Overdosing

Polymedicine describes the use of an increasing number of drugs related to an increasing number of medical problems, while polypharmacy is defined as inappropriate use of multiple drugs. While there is no standard marker for when a patient's polymedicine list becomes polypharmacy, "increasing the number of medications increases the risk of drug-drug interactions and adverse drug events," says Pham, "and reviews of medications should be routine."

The "brown-bag" method, where patients bring all of their medications in a brown bag to the physician's office, can lead to dropping at least one medicine in 20 percent of patients and a change in medication in 29 percent of patients.

Pham and Dickman highlight other methods, from systematic reviews, found to be effective in reducing inappropriate prescriptions. These include using a team approach involving pharmacists and nurses to evaluate drug regimens and suggest changes; exploring nonpharmacologic treatment options, such as exercise or cognitive therapy; and using advances in technology, including personal digital assistants and computerized alerts with health records, to reduce adverse events.

Avoiding Underuse of Medication: Underprescribing and Nonadherence

"Despite concerns about overprescribing, many conditions remain underdiagnosed or undertreated," write the authors. "Ascribing all symptoms to degenerative disease or old age will potentially miss treatable conditions," including heart disease, depression, osteoporosis and pain.

"Nonadherence (or noncompliance) is a complex phenomenon determined by a variety of issues, including physician-patient communication, cognitive decline, and the cost of medication," write the authors. Most interventions focus on education or on cognitive aids, but the combination is more promising. In some cases, cost is a factor that will not be mentioned unless the physician inquires. "Simply asking whether a patient plans to use his or her prescription may open a dialogue about the costs of a patient's prescriptions," say Dickman, senior author. "Sometimes there are alternatives, including prescriptions for generic substitutes or identifying a combination drug that may be less expensive than two individual drugs."

"Much drug therapy in older adults is to prevent illnesses by decreasing risks that will never affect them," writes Allen Shaughnessy, PharmD, associate director of the Tufts University Family Medicine Residency, in an accompanying editorial. Physicians will benefit by finding "the balance between the potentially lifesaving benefits of medication and the life-threatening complications of these drugs."

Source

Tufts University School of Medicine press release