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MEDICATION MANAGEMENT IS COMPLICATED BY OTC DRUGS

Millions of older adults today manage chronic illnesses and minor maladies with a mixture of medicines obtained from both sides of the pharmacy counter.

But unbeknownst to them, and many caregivers, residents' trips to the drug store could be putting themselves at risk while creating a medication management nightmare back home in their assisted or independent living community. That innocent-looking acetaminophen-laced flu remedy in the cough and cold aisle and the hydrocodone bitrate tablet Mrs. Jones took for pain a few hours earlier, for example, could be a toxic attack on her liver.

The problem is complex, but the risk is simple: A cocktail of

powerful prescription drugs, of which those over 65 take an average of about half a dozen a day, often interact in unpredictable ways inside aging bodies that metabolize them all in even more unpredictable ways, says Todd King, PharmD, CGP, director of clinical services for Omnicare, a CVS Company. King presented "How to reduce over-the-counter medication risks" in a March 6 webcast hosted by *McKnight's Senior Living*.

King's mission was to: understand OTC medications used commonly by older adults,

review the risks around these commonly used medications and understand ways to reduce the risks associated with OTC medication use.

Although it's well known that seniors consume a disproportionate amount of prescription drugs (40%), many likely would be surprised to learn that seniors also consume nearly the same percentage of over-the-counter medications. This is what gives many consultant pharmacists, including King, reason to pause.

A recent national study found that of all people over 65, nearly half taking one prescription drug also take one OTC medication. Seniors in assisted living settings

take an average of anywhere from two to four OTC medications per day. Added to that mixture are dietary supplements, which half of all seniors are known to take at least one of each day.

"We have a general understanding of the utilization of prescription medications, but when you add two to three more [OTC meds] to that, you're now looking at 11 to 12 medications per resident, and as you add meds, thinking about how they are metabolized as the senior body changes, and how those drugs are affected in terms of how they're processed and excreted, it can be concerning," King said.

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Exponential challenges

Healthcare professionals have warned caregivers for years about the dangers of adverse drug interactions that can come from OTCs and mostly unregulated herbal/dietary supplements. It's easy to see how the challenges can explode exponentially as seniors represent a bigger and bigger share of the population as a whole.

Ironically, this group is likely to consume more and more OTC medications the healthier they become.

"We expect the population over 65 in the coming years to be healthier, more active and participate in their overall care," King said, "and that tends to lead to a path of OTC drugs being utilized more than they are today."

Meanwhile, most consumers, including those smart and savvy baby boomers, don't realize that many of the seemingly benign OTC meds they take were once prescription-level drugs themselves. To put it bluntly, they have a false sense of security. And although they may be healthier, they can't escape the fact that their aging bodies do behave and metabolize medications of all kinds differently than when

they were young.

Moreover, a vast number of OTC meds are known as "combination" drugs, often containing two or more key "entities," or core chemicals, often missed in the fine print of labels. Most prescription drugs have one entity, according to King.

"The problem when combination [OTC] drugs are added to the mix is, there's always that potential for more adverse events and side effects and drug interactions," he said. "That's why we're always encouraging our senior population to look at these things and ask prescribers and pharmacists when they're unsure."

Among a key challenge is balancing the need for all these drugs and the costs for their adverse consequences, a bill which long-term care shoulders at the tune of about \$33 billion a year. "Those medication-related problems do have a significant impact, not just on the quality of care and outcomes of our seniors, but there is a significant financial drain around them," he said. "We want to take care of the quality but be mindful of the financial impact."

How aging bodies react

"A lot of times, we really don't

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There's always that potential for more adverse events and side effects and drug interactions.

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know what's going to happen when that person in their 90s with multiple comorbidities and medications is given another pill, and that's kind of scary," King said. "That's why these folks and their medications are so clinically complicated and so difficult to manage."

Although King acknowledges a dearth of dedicated clinical trials around the effects that drugs have on the elderly, there are a number of indisputable facts about seniors' physiology and its impact on how drugs are metabolized:

- Their total body water levels drop, and in some case precipitously, depending on comorbidities and conditions.
- Their total body fat increases while muscle mass and proteins drop. "This means drugs that like fat, and drugs that are stored in fat, tend to be dosed differently and need different types of dosing based on when that person was younger," he

said. In the presence of less muscle mass, drugs can remain potent and active in the elder body longer instead of binding to proteins. This is why these factors play a major role in the way certain medications are distributed, metabolized and managed in the body.

- Factors such as diminished eyesight, hearing, dexterity and literacy levels also pose their own set of challenges in the way seniors manage their own care or discern important care instructions from their doctors and other caregivers.

Effect on key organs

It is an oversimplification to say OTCs generally are processed through the liver and excreted through the kidneys and intestinal tract. But King cautions caregivers to understand that high OTC use can overtax these vital organs, even to the point of no return.

Declined renal function is a



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Additional OTC drugs can make it more difficult to understand metabolism and medication effectiveness.

For more information

The original webcast is available at www.mcknightsseniorliving.com/March6webinar.

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part of the aging process, but so many medications that rely on healthy kidneys to filter and flush them away often remain dangerously idle in the bodies of 70- and 80-year-olds.

In some ways, the effect of too many drugs poses even more risks on the liver — the body's primary metabolizer. Put simply, there are two main paths a drug can take during its processing in the liver. One of those paths changes radically as we age. Many of the drugs are slowly metabolized. To complicate matters, many OTC medications are known to take both paths, making treatment that much more complicated. In sum, predicting how the body metabolizes each new OTC that comes out is no easy task.

OTCs to keep an eye on

One of the riskiest OTC medications — acetaminophen — has for decades been a miracle drug to so many suffering from pain and general malaise. Unfortunately, the drug exacts a heavy toll on the liver, and its ubiquity in over-the-counter drugs is astounding.

"You could have a senior taking 2,000 mg of Tylenol for pain and then they get a cold symptom

PILING ON

The 65-plus population is especially prone to mixing prescriptions and OTC medications.

and go to the local pharmacy and pick up a cough-and-cold prep that has additional 500 mg of acetaminophen per dose; and that's when people get in trouble," he said. "This can happen in practically every category of medications."

Millions take acetaminophen alone for headaches and fever. But it is a key ingredient in a myriad of sleep aids and cough-and-cold remedies in concentrations that can easily be exceeded in the elderly, according to King. Generally "safe" limits are 3,000 to



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4,000 mg per day, but King urges seniors to avoid consuming more than the low end on a daily basis.

Non-steroidal anti-inflammatory drugs, primarily indicated for pain, inflammation and fever, are widely popular among seniors with non-specific conditions, something that can quickly escalate if a primary doctor isn't in the loop. Among the many adverse effects are gastrointestinal bleeding, blood clotting and fluid retention. No wonder someone with cardiovascular disease or hypertension could face notable risks.

Cough-and-cold, and allergy and congestion relief remedies also typically include medications like antihistamines and decongestants, which taken alone, would have rather benign effects on the body. It's when they aren't taken as directed that risks escalate, according to King, who notes many seniors miss the label warning about "may cause drowsiness."

Sleep aid concerns

The plethora of sleep aids in the pharmacy aisle should concern everyone. Many are generally

safe when taken as directed, but again, those that contain diphenhydramine can cause serious side effects.

Gastrointestinal products such as laxatives and antidiarrheals bring an entirely new set of challenges, and seniors consume a lot of both. The bottom line, according to King: Medications for bowel management should be used for a very limited time to avoid adverse events.

Finally, OTCs designed to treat gastroesophageal reflux disease are also known to adversely interact with some prescription medications over and above the problems (including osteoporosis and fractures) that their misuse and overuse can cause. King urged providers to encourage residents to seek help curing the root of the problem as a viable long-term solution. ■

Editor's note

This McKnight's Senior Living Webinar Plus supplement is based on a similarly named webinar presented on March 6. The event was sponsored by Omnicare. The full presentation is available at www.mcknightsseniorliving.com/March6webinar.



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