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Help Patients Safely Handle Medications to Improve Adherence

Addressing Barriers Such as Cognitive Impairment, Cultural Issues, and Denial Can Help Patients Avoid Adverse Effects

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MEDICATION NONADHERENCE CAN cause many drug-related adverse effects (AEs), and pharmacists are in a prime position to use every patient interaction as an opportunity to address barriers, improve adherence, and increase the safe management of medications.

A common reason for nonadherence is complex medication regimens with multiple medications to treat multiple chronic disease states, posing a safety risk for patients. Complexity means patients can get confused, miss doses, or take them inappropriately. For example, in patients with diabetes and hypertension, overall adherence rates were within the range of 50% to 60%.¹ The causes are so multifactorial that the World Health Organization (WHO) has broken down the reasons for patients not following the recommended treatment regimen into factors. These include economic and social factors, as well as those related to the health care system, the patient, the provider, and the therapy.²

Briesacher et al examined adherence rates among patients with diabetes, gout, hypercholesterolemia, hypertension, hypothyroidism, osteoporosis, and seizure disorders and found that the rates varied from 36.8% to 72.3%.³ Yeaw et al evaluated adherence rates among patients on angiotensin II receptor blockers, bisphosphonates, oral antidiabetic medication, overactive bladder medication, prostaglandin analogues, and statins. After 12 months, adherence rates ranged from 35% to 72%.⁴

The WHO said that, on average, adherence among individuals experiencing chronic disease was 50%.⁵ This nonadherence to prescribed therapy is estimated

to generate at least 100,000 preventable deaths and \$100 billion in preventable direct and indirect medical costs per year.⁵

The Kaiser Family Foundation reported that nearly 1 in 4 Americans who takes prescription medications finds it challenging to afford them, and 29% of older adults said they did not take their medicines as prescribed because of the expense.⁶

Pharmacists can help patients safely take their medications by addressing any barriers during each interaction with the patient. Patient-related barriers include cognitive impairment, cultural issues, denial, depression, and lack of health literacy and motivation.¹ Treatment-related barriers include complexity of treatment, cost, fear of AEs, inconvenience, and time.¹ Others include an asymptomatic disease being treated or an inadequate patient-practitioner relationship.¹

Strategies for Improvement

Pharmacist and team-based or coordinated care interventions have been shown to improve medication adherence rates and patient safety. Neiman et al reported that patients assigned to team-based care, including collaborative care between a cardiologist or primary care provider and a pharmacist; pharmacist-led medication reconciliation and tailoring; pharmacist-led patient education; and 2 types of voice messaging (educational and medication refill reminder calls), were significantly more adherent with their medication regimen 12 months after hospital discharge (89%) than patients not receiving team-based care (74%). Patients reported that team-based care improved their comfort in asking clarifying questions, raising concerns about their medica-



tion regimen, and collaborating to develop their treatment plan.⁷

Countless low-tech strategies for improving adherence have been demonstrated to be helpful in studies that are typically of short duration. Such strategies include bundling medication refills together so patients can pick up all medications at the same time, clarifying medication ingestion schedules, discussing the value of medications with patients, prescribing less expensive equivalent or generic medications, telephone outreach, and verifying adherence by checking blood levels. In some disease populations, including patients with AIDS or tuberculosis, pharmacists have used email, telephone calls, and text messaging. When promoting adherence to antiretroviral therapy, birth control, and prenatal vitamins, some pharmacists have also used e-cards and text messaging.⁸

Close to 50 companies are developing technology to help patients with medication adherence, with many addressing patient safety. Some are placing ingestible sensors in pills. Other examples include alarms to remind patients when a scheduled medication should be taken and bottles with wireless technology to track the number of pills ingested. Notably, many of these solutions to nonadherence require the transmission of data about the patient's medication use to 1 or more third parties. These include caregivers, family members, and health care professionals, who could then mediate in real time to help ensure that the patient takes the medication.⁸

Technology allows patients to safely manage their medications with electronic reminders, which helps them play an essential part in their self-care and increases patient safety.⁸

In addition, technology helps practitioners, who often lack detailed information about patients' actual behaviors. For example, specific, sound adherence data can support practitioners' efforts to

explain why a medication failed to work as expected.


Often, inpatients in skilled-nursing facilities or other environments, where medication distribution is complex and time-consuming, can no longer take medication on their own. In these instances, smart technology can be used to audit and track consumption, decreasing the number of health care professionals needed to monitor adherence.⁹

Conclusion

Pharmacists play an essential role in promoting the safe handling of medications and decreasing nonadherence. They can use new strategies to improve adherence and medication safety, often with minimal investment, and new technology can help pave the way. ■

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