AIDES to Improving Medication Adherence in Older Adults

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Medication regimens for older adults are often complex and costly. Designing, implementing, and maintaining an appropriate treatment regimen is challenging. The AIDES method is built on the principles of completing a comprehensive medication Assessment; partnering with patients to ensure Individualization of the regimen; choosing appropriate Documentation; providing accurate and ongoing Education tailored to the age group and needs of the individual; and continuing Supervision after initiation. (*Geriatr Nurs* 2006;27:174-182)

Medication use by older adults is a frequent topic of concern. For independent community-dwelling older adults, two-thirds take at least 1 medication daily and one-fourth average 3 drugs.[1] For individuals living in the community but requiring assistance with activities of daily living, 71% take 3 to 7 medications per day, and 15% take 8 or more.[2,3] The average nursing home resident routinely takes an average of 7 scheduled plus 3 as-needed medications; however, more than a fourth of these individuals (27.2%) take 9 or more medications.[4]

Older adults are also major consumers of over-the-counter (OTC) and complementary medications such as laxatives, pain medication, vitamins, and herbs.[5,6] Because these products do not require a prescription, they may not be viewed as either medicine or as important. Older adults often fail to report the use of these agents to the primary health care provider.[5,6] Many OTC and complementary products have similar actions to prescribed medications, so use of these substances by the older adults may influence adherence and safety.

Multiple medication use is viewed as the norm for many older clients.[7] Increasing age is often accompanied by chronic disease, and medications are frequently the primary treatment modality for chronic illnesses. At least 80% of senior citizens have 1 or more chronic conditions. For individuals aged 65 and older, almost two-thirds (62%) had 2 or more conditions, and the prevalence in 80 year olds jumps to 70%.[8] Diuretics, antipsychotics, anxiolytics, potassium supplements, digoxin, nonsteriodal anti-inflammatory drugs, insulin, theophylline, H2 blockers, anti-infectives, anticonvulsants, and thyroid supplements[9] are frequently mainstays of chronic care but may place the individual at an increased risk for adverse drug reactions.

Chemophilia, or placing great value on the power of pills and potions,[10,11] may be a major factor contributing to the high consumption of medications. Additional factors include multiple providers and pharmacies, lack of a primary provider coordinator, drug regimen changes, and self-treatment.[10,12] Clearly, older adults who take many medications are at an increased risk of experiencing side effects and drug-drug interactions.[13,14]

The polypharmacy phenomenon is often closely associated with poor adherence.[12] Nonadherence may be purposeful (perceived as not needed, ineffective, or unsafe) or unintentional (inability to access, forgetting, interruption of routine, or lack of reminders).[15] Clients may actually make a personal cost-benefit analysis of whether to follow instructions so that what may seem an irrational act to the provider is in fact a rational act for the client.

Nonadherence may have significant consequences and take the form of overuse or disuse. Taking medications that are not ordered or taking different dosages of medications are common discrepancies that can threaten the therapeutic outcome as drugs fail to achieve expected goals.[17] Nonadherence may lead to adverse drug reactions with subsequent need for relocation, increased physician office or ambulatory care visits, emergency room visits, and hospitalizations.[18-21]

Despite the fact that medication adherence has received considerable attention from clinicians and researchers, no clear evidence-based interventions have been found for all clients.[22-25] A meta-analysis of 153 studies related to exercise, medication, diet, and appointment keeping (1977–1994) found that any intervention had a positive effect and that a

Table 1.
AIDES Model for Improving Medication Adherence for Older Adults

A: Assessment	Completing a comprehensive medication assessment
I : Individualization	Partnering with patients to ensure individualization of the regimen
D: Documentation	Choosing appropriate documentation to assist with communication between patient and provider(s)
E: Education	Providing accurate and ongoing education tailored to the age group and needs of the individual
S: Supervision	Continuing supervision of the medication regimen

combined focus resulted in larger results than did single-focus interventions.[23] For example, an adherence intervention that included receiving telephone reminders from a family member, recording of medication adherence on a calendar, and getting updated information on the medication regimen at each visit to the health care provider, would likely have a greater impact in combination than any of the 3 components alone. In a Cochrane review of interventions for helping clients to follow prescriptions, Haynes and colleagues[24] suggested that both short-term, simpler regimens and complex strategies including combinations of strategies could improve adherence and treatment outcomes. Nonetheless, an improved effectiveness for adherence with long-term medication prescriptions was not maintained even with the investment of significant effort and resources.[24]

Although medication adherence is not exclusively controlled by health care providers or amenable to a single strategy, the utilization of theory and research interventions matched to the patients needs has the potential to improve the process. The purpose of this article is to share the investigator developed AIDES (Assessment, Individualization, Documentation, Education, and Supervision) method for use by health care providers and nursing professionals to assist in improving short- and long-term medication adherence with older adult clients. This model builds on evidence-based practices from the professional literature and offers health professionals a number of strategies to assist in improving medication adherence for older adults. By addressing these concepts as described in Table 1, we have the opportunity to intervene and improve the care provided to this special population.

THE AIDES TOOL

Assessment

Mental Status Assessment

Clients with impaired cognitive status are at risk for problems with medication adherence.[26] Routine screening for cognitive deficits is important to providing quality care to older adults. The Mini-Mental Status Exam [27] or a similar tool may alert the professional to potential problems and help them to understand why therapies either have been unsuccessful or are in need of change. Although a deficit in cognitive ability does not preclude medication adherence, it may make it more of a challenge and require the adoption of alternate plans. Medication trays or drug calendars may be more effective interventions for persons experiencing deficits in the language area than oral or written instructions.[28] Reminders by family members or friends[29] may be an option for older adults experiencing problems with orientation. Individuals with calculation and recall deficits may benefit from prefilled pill boxes.[25]

Brown-Bag Assessment

The "brown-bag assessment" is a well-established method of providing information regarding the medication regimen.[30,31] Better decisions are made when all medications (herbs, vitamins, ointments, prescriptions, and nonprescriptions) are available and evaluated in original containers.[30,31] This review is pertinent in all settings, especially at initial visits. Telephone reminders before appointments that explain the process and stress the importance of the "brown-bag" assessment