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BODY AND MIND

Prescription Drug Use By The Elderly

In many cases, co-existing medical illnesses interact with aging to complicate the body's ability to safely process drugs.

By Richard E. Finlayson

In my last column, I dealt with the subject of alcohol use by the elderly. I noted that there were some special alcohol issues in this age group. The same is true of prescription drugs, or any substance use for that matter. In this column I will use the terms "drug" and "medication" interchangeably. If I refer to illegal drugs, I will so indicate. I have previously reviewed this topic in greater detail in a special issue of the International Journal of the Addictions.[1]

Complicating Factors

As with alcohol, aging factors influence the manner in which prescription drugs are distributed throughout the body, and how they are metabolized and eliminated. In many cases co-existing medical illnesses interact with aging to complicate the body's ability to safely process drugs. Prescription drugs are typically longer acting than alcohol due to the complex processes needed to metabolize and eliminate them. In the case of benzodiazepines (tranquilizers) some require up to 200 hours just to eliminate one half of the drug (referred to as the drug's "half-life"). Physicians are learning to use shorter acting sedatives in the elderly to prevent "hangover" effects. Sedative drugs with very short half-lives (a few hours) should be used with caution, however, because after prolonged use sudden withdrawal can result in the development of severe withdrawal symptoms.

Aging seems to make individuals more susceptible to the adverse side effects of medications. Memory impairment, for example, is a common side effect of sedatives. In one study done at the Mayo Clinic, the results indicated that in persons being treated for alcohol and drug dependence, the adverse effects of benzodiazepines (tranquilizers) upon memory were more severe and longer lasting than were the effects of alcohol.[2] Other common side effects of sedative drugs include falls, motor vehicle accidents, adverse mood changes and dangerous interactions with other drugs.

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As persons age, they become more susceptible to chronic illnesses such as heart disease, high blood pressure, arthritis, diabetes, Parkinson's disease etc. These in turn increase the rate at which the elderly use prescription drugs. Those over age sixty-five constitute about twelve percent of the general population, but consume one-quarter to one-third of legally distributed prescription drugs. This increases the probability of drug-drug and drug–alcohol interactions. Specialization and sub-specialization by physicians have certainly had benefits for many of us, but problems can still arise. The risk of drug-drug interactions increases when multiple physicians are prescribing for a person. The physician may not ask about other drugs being used or the older person may not know or remember what they are taking. Also, in my experience, there is a tendency for patients to omit their use of over-the-counter medications when talking to a physician, assuming that they are not "drugs" or are of little consequence. In fact, some are quite potent and can interact with prescription drugs and alcohol. An example is antihistamines, which are sedating, and when combined with alcohol or a benzodiazepine, lead to excessive sedation, falls, and even confusion

Drug Cultures

The origins, societal approval, prohibitions, and personal expectations of various drugs can powerfully effect how a given individual will react to them. The net result is far from just a pharmacological reaction. Native peoples in the Americas, for example, have used drugs derived from plants as a part of religious ceremonies, and as such, societal expectations and other pressures controlled the usage. When alcohol was introduced to Native Americans the result was a disaster. I once heard a prominent psychiatrist/anthropologist describe the result as "frontier drinking." Drinking to get drunk can occur when there is an absence of clear-cut disapproval of such drinking. The issue is complex with respect to native peoples in North America because of theories that posit that genetic factors may contribute to high rates of alcohol abuse and dependence as well as cultural factors.

The culture surrounding what we commonly refer to as "street drugs," "illegal," or "illicit drugs" includes crime, violence, large sums of money changing hands, etc. A user of a drug may also be a dealer and be motivated not only by the direct biological effects of the drug, but the excitement of eluding the authorities and making a lot of money. These can be powerful reinforcers of drug-using behavior. The literature published to date has described illicit drug abuse as uncommon, even rare, in today's elderly. This may well change as the street drug users of the past few decades age. Some will undoubtedly retain a preference for drugs such as marijuana, narcotics and even cocaine into middle and late life.

Prescription drug use has its own culture as well. There is an illicit market for these drugs and I would group this usage with street drugs and that culture. The culture surrounding the legal distribution and use of prescription–type drugs is very different and includes societal approval, monitoring of use by professionals such as physicians, dentists, pharmacists, and nurses, and a certain degree of financial support for their use. The elderly do not typically steal or commit crimes to obtain these drugs, as do younger persons who use illegal drugs. A special feature of this legal drug use is the doctor-patient relationship. Older persons tend to be respectful of medical authority. When the older person departs from the physician's instructions, it may be because the instructions were not clearly heard or understood. Sometimes a person taking a prescription drug will stop taking it after hearing or reading an announcement that the medication is harmful. I recall one case of an older woman who had used a sleeping medication for many years. She read in a magazine that it was addictive (which it was) and tried to stop taking it. Her trouble in doing so eventually led her to our treatment program.

The elderly use prescribed drugs to reduce pain, to sleep better, to have more energy, and to experience a brighter mood. Their suffering creates sympathy and support from those close to them and their need for medication is not readily questioned. These very factors make it difficult to detect and deal with misuse, abuse, and dependence when it does occur or is suspected to occur.

Misuse, Abuse and Dependency

The term "misuse" is not a medical diagnostic term, but it is handy for describing certain patterns of behavior. For example, an older person hampered by marginal financial resources may consume only a portion of a prescription and save the remainder "for a rainy day." Seniors have been known to trade medications with a spouse, friend or relative, not knowing the full implications of the action. Under-use by the elderly may be a more common phenomenon than over-use.

A physician may misuse a medication by prescribing it for the wrong reason, in a greater quantity than necessary, or for a longer time than is justified. For example, it has been reported in the medical literature that physicians tend to prescribe the benzodiazepines (tranquilizers and sedatives) in higher doses and for longer periods for the elderly.

Medical professionals use the term "abuse" when the drug is used in an excessive manner that is associated with a pattern of serious side effects or other consequences. This is considered to be a self-induced condition; although a lack of understanding of the implications on the part of the person using the medication may be a factor. Dependence according to most diagnostic criteria refers to a pattern of repetitive use, which has adverse consequences, is compulsive in nature, and is more or less out of control.

The prescription drugs of greatest concern with respect to abuse and dependence are sedatives, tranquilizers, and narcotics. When such medications are used within the context of a medical illness, prescribed by a licensed physician, and distributed by a pharmacist, an assumption is made that all is well. A brief clinical vignette may illustrate how things can go badly.

A widow is still taking sleeping pills a year after the death of her husband and has no known mental disorder. The possible explanations for consideration are that she has a lingering depression superimposed upon her grief or her life circumstances are highly stressful as a result of being left to fend for herself. There may be a medical illness such as painful arthritis and the sedative is helping. On the other hand, drug dependence may have developed and may be the primary reason for the continuing use of a sedative. The situation calls for a thorough medical and perhaps psychiatric examination.

Such ambiguous situations are common in the elderly and make the assessment of prescription drug use very challenging

The Medical/Legal Interface

There is far less commentary and discussion concerning prescription drug abuse and dependence than there is on illicit drugs, alcohol, and tobacco. The legitimate use of prescription drugs is a matter of public policy resulting, as we all know, in a highly regulated industry. Some of these drugs are diverted to the street and used, as I mentioned earlier, within the illegal drug culture.

The matter of professional liability for those who prescribe or dispense these drugs is probably the most common legal issue for patients and health professionals. The potential liability has broadened some as nurses have been granted prescribing privileges. Unfortunately, a high prevalence of psychotropic medication prescribing and inappropriate use has been reported to occur among the homebound elderly, a group that is at the highest risk of adverse effects such as drug-drug interactions.[3]

Just how common is inappropriate prescribing for the elderly by physicians? The national news has recently carried reports that inappropriate medical care (this would include medications) is resulting in an unacceptable rate of injury and death. President Clinton is advocating legislation for a program, which would hopefully reduce the problem. As to the matter of prescription drug problems in the elderly, Aparasu and Sitzman extracted data from the 1994 National Hospital Ambulatory Medical Care Survey and analyzed the data with respect to twenty potentially inappropriate medications.[4] Such prescribing occurred in 4.45% of elderly outpatient visits. It is very difficult to state whether this is a worrisome level, but as these authors point out such data could be used to identify provider and patient profiles which might predict inappropriate prescribing and by inference reduce it.

Epidemiological data reveal that suicide rates tend to climb steadily with age and that the most elderly are at the highest risk. Self-poisoning with medications is common in our culture and probably more common in women. Men generally use more

violent methods such as gunshot and hanging. In instances of murder-suicide, often involving elderly partners, the man typically uses a firearm to kill a medically ill woman and then himself. [Men are generally more familiar with firearms.]

Drug overdose can of course be lethal, but it is less sure and can be reversed if identified in time. Some of the newer psychotropic (mind-acting) drugs are safer than those prescribed in the past. For example, barbiturates were commonly used in suicide deaths until the introduction of tranquilizers in the 1950's. The latter are much safer.

One reason why prescription drugs are a likely method for attempted suicide by women is that the current generation of men and particularly women are not familiar with illegal drugs. Prescription drugs are readily available to older people. I am not aware of any published data that report how common suicide by prescription drug overdose is in the elderly. It would be very difficult to make such a diagnosis if a suicide note were not left by the victim. Overdosing of a medication, either by intent or accidentally, would leave little trace. Even if drugs could be identified in the post-mortem blood the events leading up to death would be open to conjecture.

My mention of suicide by drug overdose in the elderly brings to mind the issues of involuntary hospitalization and civil commitment. I have not made an extensive examination of the medical literature on these topics. From what I have read, combined with observations made during thirty–five years of medical practice leads me to conclude that involuntary hospitalization of the elderly for prescription drug abuse is much less common than for the non-elderly and civil commitment for a substance dependence on these drugs is rare. I cannot, in fact, recall a case of the later. If mine are common experiences they may reflect, in part, the difficulties encountered in establishing a diagnosis of a substance-related disorder. Certainly I have encountered a substantial number of older persons who manifested all the signs and symptoms of addiction, but it is most unusual for the cases to come to us from the courts.

Endnotes

1. *See* Richard Finlayson, *Misuse of Prescription Drugs*, 30 INT'L J. ADDICTIONS 1871 (1995).

2. *See* Teresa A. Rummans et al., *Learning and Memory Impairment in Older, Detoxified Benzodiazepine-dependent Patients*, 68 MAYO CLINIC PROC. 731 (1993).

3. *See generally* Adam G. Golden et al., *Inappropriate Medication Prescribing in Homebound Older Adults*, 47 J. AM. GERIATRIC SOC. 948 (1999) (report on the prevalence and pattern of inappropriate medication discovered through a study of 2,193 homebound people over the age of 60).

4. *See generally* Rajender R. Aparasu and Scott J. Sitzman, *Inappropriate Prescribing for Elderly Outpatients*, 56 AM. J. HEALTH-SYSTEM PHARMACY 433 (1999) (discusses the factors predicting, and the frequency of, potentially inappropriate prescribing).