The Potential Impact of the Baby-Boom Generation on Substance Abuse Among Elderly Persons

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Little attention has been paid to substance use disorders in the elderly population. Currently available diagnostic criteria are likely to significantly underestimate the prevalence of substance abuse among elderly persons because they were developed and validated in younger samples. As baby boomers age, the number of elderly persons who misuse or abuse illicit drugs and alcohol may increase because this age cohort has higher rates of use of these substances than previous cohorts. Abuse and misuse of prescription and over-the-counter drugs may also increase due to the larger numbers of baby boomers. Few studies have addressed treatment issues that may be unique to elderly substance abuse patients. Some evidence suggests that substance abuse treatment outcomes are poorer among individuals with cognitive impairment, and special treatment strategies are needed for elderly persons with dementia. To identify the magnitude of the problem, diagnostic criteria should be modified and national survey data should be analyzed to provide more accurate estimates of substance abuse and dependence among baby boomers. (*Psychiatric Services* 50:1184–1188, 1999)

Demographic trends and the fact that substance abuse is the most prevalent psychiatric disorder among younger males (1) suggest that the management of substance abuse and dependence will emerge as an increasingly important public health problem during the next few decades. Baby boomers, who led the way in the social upheavals of the 1960s and 1970s, including a dramatic increase in the use of illicit drugs (2), will begin to turn 65 in the year 2011.

Relatively little research has focused on substance abuse in the elderly population. In this article we review data on the prevalence of substance abuse and dependence among older persons and baby boomers, discuss risk factors and treatment in old age, and speculate on the impact of the aging baby-boomer cohort on drug abuse in the next millennium. Based on this information, we suggest research strategies to further elucidate these issues.

Prevalence

Definitional problems

A plethora of studies have estimated the incidence and prevalence of drug abuse in younger populations. However, far fewer studies have focused on elderly persons. Furthermore, several methodological problems, including inappropriate definitions, may have resulted in low estimates. Studies using currently available diagnostic criteria for substance abuse are likely to significantly underestimate the prevalence of drug abuse among elderly persons because the criteria were developed and validated in young and middle-aged samples; the criteria may have only limited utility among elderly populations (3–5).

For example, *DSM-IV* criteria (6) include increased tolerance of the effects of the substance, which results in increased consumption over time. However, changes in pharmacokinetics and physiology may alter drug tolerance in elderly persons. Decreased tolerance of alcohol among older individuals may lead to decreased consumption with no apparent reduction in intoxication.

Another *DSM-IV* criterion (6) for abuse involves adverse consequences associated with substance use such as absences from work or poor work performance, suspensions or expulsions from school, and neglect of children. These consequences fail to consider age-related differences. One would expect fewer such adverse consequences to occur among elderly persons since they often live alone and are unemployed.

In contrast to younger substance abusers who most often abuse illicit drugs, substance abuse problems among elderly individuals may result from misuse of over-the-counter and prescription drugs. Misuse of drugs refers to underuse, overuse, or errat-

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ic use of legal drugs, either prescribed or over-the-counter drugs. In its extreme form, misuse may become drug abuse (3,6).

Prescription drugs

Elderly persons use prescription medications approximately three times as frequently as the general population (7), and use of over-the-counter medications by this group is even more extensive (8). In the United States, the estimated annual expenditure on prescription drugs by elderly persons is $15 billion—a four-fold-greater expenditure per capita on medications than that of younger individuals (9,10).

Psychoactive drug use is particularly problematic. Data obtained from elderly persons living in the community who were receiving services at a mental health clinic revealed that prescription drug abuse, most often of sedative-hypnotic, antianxiety, and analgesic drugs, accounted for about 5 percent of the average caseload (11). Beers and associates (12) reported that more than half of all residents of intermediate care facilities in Massachusetts were receiving psychoactive drugs, and 30 percent received long-acting drugs not recommended for elderly persons.

Other data from the Veterans Affairs hospital system suggested that inappropriately high doses of benzodiazepines were commonly prescribed for elderly patients (13). A national survey of approximately 3,000 persons living in the community found that 1.6 percent had taken benzodiazepines daily for one year or longer and that older persons were overrepresented among the users; 71 percent of this group were over 50 years old (14). Other estimates of psychoactive drug use in the elderly population range from 23 percent in the National Medical Care Expenditure Survey (15) to 28 percent in an urban Seattle housing project (16).

Comorbid disorders and gender appear to be important predictors of prescription drug use. Finlayson and Davis (17) examined prescription drug use among 100 elderly patients admitted to an inpatient addiction program during a 20-year period (1974–1993) and found that 72 percent had an alcohol use disorder only, 16 percent had prescription drug dependence, and 12 percent had both alcohol and drug dependence. In this sample 35 percent developed drug dependence after age 60. The greatest risk factor for abuse of prescription drugs was being a woman. This finding is supported by other studies suggesting that elderly women are more likely to visit physicians and to receive prescriptions for psychoactive drugs than elderly men (18–21).

In contrast, Robins and Clayton (22) analyzed data from the National Household Survey on Drug Abuse and concluded that older men were more likely than women to report use of sedatives, tranquilizers, and stimulants. Moos and associates (23) examined inpatient treatment records for 1987 from Department of Veterans Affairs medical centers. A total of 98,000 patients had a diagnosis of substance abuse, and approximately 22 percent of them (21,139 persons) were age 55 or older. Of these, 13.7 percent were diagnosed as having drug dependence or drug-induced psychosis, and an additional 58.2 percent had a diagnosis of alcohol abuse or dependence.

Swartz and colleagues (24) examined wave 1 data from the Piedmont health survey, which was part of the Epidemiologic Catchment Area (ECA) study, and reported that benzodiazepine use was predicted by being elderly, white, female, less educated, and separated or divorced, by having experienced a greater number of negative life events, and by having a psychiatric diagnosis.

An association may exist between age-related physical morbidity and abuse of medications. For example, individuals with arthritis may grow increasingly dependent on pain medications, and those with sleep problems may be more likely to abuse benzodiazepines. This association may be partly due to difficulties that older individuals have in following and reading prescriptions (25). In addition, elderly patients are more likely to be prescribed medications for longer periods of time than younger patients (26).

Illegal drug use

Cross-sectional data support the findings of a low prevalence rate of illicit drug use in the elderly population. Less than .1 percent of individuals older than 65 in the ECA study met *DSM-III* criteria (27) for drug abuse or dependence during the previous month (1). The prevalence rate was 3.5 percent for the same period among 18- to 24-year-old persons. ECA data suggest a lifetime prevalence of illegal drug use of 1.6 percent for persons over age 65 (28).

In addition, data gathered through other means—for example, surveys of homeless individuals, reports of adverse drug reactions, and drug arrests—indicate that illicit drug use in the elderly population is very uncommon (29). In 1982 the one-year prevalence of marijuana use among persons over age 50 was 1 percent (29). Data from the Drug Abuse Warning network in 1991 indicated that 1.8 percent of emergency department contacts for heroin or morphine abuse were for persons over age 55 (30). Approximately 2 percent of all methadone maintenance clients in New York City in 1985 were over age 60 (31).

Atkinson and colleagues (29) reported that development of addiction after young adulthood is rare and that mortality among addicted individuals is high. For example, in one 24-year follow-up study of heroin addicts, more than 27 percent of subjects died during the study period (32). National data indicate that 5.6 percent of deaths associated with heroin or morphine use were of persons older than 55 (33). Solomon and Stark (34) reported that only two of 26 elderly men in a substance abuse program had ever used illicit drugs, suggesting that drug abuse in that age group largely involves prescription and over-the-counter drugs and alcohol.

Few longitudinal studies that allow examination of drug use trends over time in specific age cohorts have been carried out. The National Survey on Drug Abuse is an annual nationwide study of the household population of the United States that is sponsored by the National Institute on Drug Abuse and has been con-

ducted since 1971 (35). Although published data group together respondents over age 35, it is possible to obtain a rough estimate of the impact of aging, at least into middle age, and the aging of baby boomers. To do so, we averaged data from each available age stratum that encompassed those born during the baby boom, weighted by the number of individuals in that stratum, and compared those data to prevalence rates among individuals under age 35.

In 1979 overall 27 percent of younger baby boomers, age 21 to 33—almost 14 million people—reported using any illicit drug during the past month. As baby boomers aged, the prevalence of the use of any illicit drug in the past month declined sharply until the individuals reached their early thirties, when it leveled out. The prevalence rate has remained stable but higher than age-matched cohorts from previous generations. These data suggest that some baby boomers have continued to use illicit drugs as they age. Due to their sheer numbers, we can expect larger numbers of current drug users to reach age 65 and to have a potential impact on treatment programs and other resources.

Alcohol abuse

Liberto and associates (36) reviewed literature on rates of alcohol abuse and dependence among people over age 65 and estimated that the incidence of heavy drinking (12 to 21 drinks a week) was between 3 percent and 9 percent. However, the ECA study, which used *DSM-III* criteria, estimated a much lower one-month prevalence rate of alcohol abuse and dependence—.9 percent—among people over age 65. Another study of urban residents also found a low one-month rate of 2.2 percent in this age group (37). The National Longitudinal Alcohol Epidemiologic Survey estimated the prevalence of alcohol dependence among persons over age 65 to be 1.2 percent for men and .3 percent for women (38).

Hospitalized individuals have rates of incidence of alcohol abuse that are higher than those in community samples, with estimates ranging from 5 percent to 50 percent (36). Some longitudinal studies suggest that alcohol consumption decreases with age (21,39), while others have reported stable consumption (40) or increased consumption (41). According to Reid and Anderson (42), alcohol abuse and dependence are increasingly being recognized as problems among elderly persons. Prevalence rates are likely to increase as baby boomers, who have heavier drinking habits than the current cohort of older adults, reach older age.

Age-related changes in substance abuse

Several factors may be related to the observed age-related reductions in substance abuse. They include problems with diagnostic criteria associated with aging, age-related changes in pharmacokinetics, and changing patterns of drug use—for example, reductions in illicit drug use. Winick (43) proposed one of the most popular theories—"maturing out"—to explain apparent decreases in substance abuse, particularly of narcotics, associated with aging. This theory posits that factors associated with aging processes and length of abuse contribute to a decline in the number of older narcotic addicts. These factors include age-related developmental changes and morbidity and mortality associated with substance use.

Substance abusers have higher mortality rates than age-matched nonabusers (23,44). Studies of older individuals have reported that light and heavy drinkers are at an increased risk of mortality, while moderate drinkers are at a decreased risk (45,46). According to the maturing-out theory, increased numbers of individuals addicted to illicit drugs become abstinent as they age. However, this hypothesis is not supported by empirical data, which suggest that the number of older addicts may increase and that persons who have been addicted for more than five years do not become abstinent as they age (32,47). One study reported that addicts approaching age 50 who were followed for more than 20 years remained involved in criminal activities (32).

A number of other factors have been associated with the risk of substance abuse among elderly persons. They include biologic factors, such as changes in drug metabolism noted above. Other researchers have pointed to demographic characteristics such as gender as important risk factors. However, the relationship between gender and risk of substance abuse does not appear to be simple. Although women are more likely to receive a prescription for psychoactive drugs (22,48), men may use psychoactive drugs more frequently than women after age 65 (49).

Several psychosocial variables have been hypothesized to be risk factors for substance abuse in the elderly population. Stress (50), isolation (51,52), various losses, loneliness, and onset of illness have all been related to late-onset drug use (52). Finlayson (53) noted that for older persons who abuse alcohol the roles of social support, social control, and coping might be different than for those who abuse other drugs. For example, an individual with a physical problem such as pain may be encouraged by friends and family to use pain medications, while individuals with alcohol dependence may find that support persons reject their use of alcohol.

In addition to physical comorbidity, use of psychotropic drugs and psychiatric comorbidity are important risk factors for substance abuse. As many as one-fourth of elderly persons living in the community use psychotropic drugs (15,16,53). Psychiatric diagnoses that have been associated with prescription drug dependence include a personality disorder, somatoform disorders, and anxiety, sleep, and adjustment disorders (17).

Treatment

Few studies have addressed treatment issues that may be unique to elderly substance abuse patients. Alcohol treatment programs for elderly persons suggest that alcohol abusers with later-life onset exist in large enough numbers to warrant targeted programs that emphasize intrapersonal variables such as depression that have been shown to be related to treatment completion and success

(54–56). Some studies (57), but not all (58), indicate that greater cognitive impairment is associated with worse prognosis for recovery among individuals with alcohol dependence. Gordon and associates (59) have speculated that patients with cognitive impairments such as problems with verbal abstraction may not be able to take advantage of treatments that require higher-order cognitive processing such as learning new problem-solving strategies.

Allen and Landis (60) recommend delaying treatment for older alcoholic patients until abstinence has been achieved and cognitive functioning has recovered to some degree. However, among some populations of older patients such as those with dementia, recovery of age-appropriate functioning may not occur, which points to a need for intervention strategies tailored to specific subsets of the aging population.

Other problems with treatment may be encountered among patients with dual diagnoses such as substance abuse and major depression. The underlying causes of substance abuse may be different in this population. Some patients may use drugs to cope with their psychiatric disorder, others may initially misuse their medications resulting in abuse, and others' abuse of drugs may be associated with psychiatric relapse (60,61). These findings indicate a need to treat both substance abuse and the psychiatric disorder simultaneously.

Discussion

Substance abuse is a complex problem in the elderly population. Although a general trend for a decrease in substance abuse over the life span has been noted, a sizable proportion of substance abusers survive into late life. Baby boomers have been reported to have higher rates of substance abuse than any previous generation (62). Within the next two decades, this group will become the largest group of elderly persons that American society has ever had. As this cohort ages, the number of elderly drug abusers in the population may increase. In addition to increased numbers of aging early-onset drug abusers, we may also see greater numbers of individuals who develop late-onset drug or alcohol problems.

As baby boomers reach the age at which physical comorbidities such as arthritis increase, an upsurge in misuse of prescription and over-the-counter medications may occur, followed by increased abuse of these medications as well as alcohol. A more optimistic perspective suggests that there may be disproportionately fewer problems with medication misuse and abuse in the elderly population as better management of chronic diseases and their associated morbidity is achieved.

Recommendations

To identify the magnitude of the problem of substance use disorders in the elderly population, diagnostic criteria must be made more appropriate for use with elderly persons. Current data collected annually by the National Survey on Drug Abuse should be analyzed to provide more accurate estimates of drug abuse trends among baby boomers. Elderly persons have high rates of poor compliance with recommended use of medications. Thus increased attention should be paid to standardized prescription labels printed in large type, and more research should focus on medication compliance in this group.

The perception that drug abuse is not a problem among elderly individuals continues to exist. Most of the research emphasis is on younger populations, without appreciation of the unique problems presented by the elderly drug user. Before the baby boomers reach age 65, there is time to develop a treatment infrastructure that is sensitive to problems of older drug users. Awareness of the problem of drug abuse in the elderly population must be increased through education of both professionals and the public. ♦

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