

Substance Abuse and the Elderly: Unique Issues and Concerns

John J. Benschoff
Laura K. Harrawood

Southern Illinois University at Carbondale

Darwin Shane Koch
University of North Texas

Data indicate that substance abuse problems are common in the elderly but are largely ignored. The elderly cohort of abusers is divided into early and late onset groups. Abuse moderating factors include cohort effects, socioeconomic status, and frail health, while exacerbating factors include discretionary income, status as a hidden population, and caregiver complicity. Physiological and psychological influences are concomitant to substance abuse. A number of screening instruments exist and treatment should be tailored to the unique needs of the elderly population.

Substance use, abuse, and dependence are elusive constructs when it comes to assessing problem behavior among individuals who are elderly (defined as individuals over the age of 65 for this article). While it is clear that drug and alcohol use, abuse, and dependence occur among this age cohort, the extent, types and outcome of use, abuse, and dependence are speculative, at best. Individuals over the age of 65 make up roughly 12.4% of the total U.S. population (about 35 million people) and they represent the fastest growing age cohort; by 2030 this group will nearly double in size to over 70 million individuals and will represent 20% of the U. S. population (Administration on Aging, 2002). Various sources of data suggest that alcohol problems are ordinary events, but largely unrecognized in this population and estimates of the prevalence of heavy drinking or alcohol abuse range from 2% to 20% for this population (Menninger, 2002; Ondus, Hujer, Mann, & Mion, 1999; Pennington, Butler, & Eagger, 2000; Rigler, 2000). However, virtually no data exist to quantify drug use, abuse, and dependence patterns. The sheer size of this population cohort will mean that the size of potential problems will grow. Moreover, there is some suggestion that the baby-boom generation is more likely than earlier generations to have

been exposed to drug and alcohol use and may drink or consume drugs at greater rates after age 65 (Levin & Kruger, 2000; Marks, 2002; Ondus, et al.). If so, the need for treatment and rehabilitation services will multiply.

The rehabilitation, substance abuse, and gerontology literature pay scant attention to alcohol problems of the elderly and largely ignore drug problems all together. Several reasons have been suggested for this lack of information and attention. First, drug abuse/dependence research tends to be driven by the federal agenda and the popularity of drugs at a given time, to the exclusion of other drugs and other drug related behaviors. Initially, research centered on the problems created by dependence on illicit narcotic drugs with recent shifts in attention to cocaine and illicit stimulant drugs. As aging individuals are thought to be among the least likely to use these drug types, little information is known about incidence or prevalence or about the effects of these drug on the elderly population.

Second, as Winnick (1962) suggested, individuals "age out of" drug use and relatively few individuals maintain illicit drug use beyond his or her thirties or forties. Peterson (1988) reported that individuals who begin substance abuse after age 65 are more likely to abuse alcohol and rarely turn to illicit drugs.

Third, stemming from the massive drug problems that began in the 60s, the emphasis in the literature and treatment has been on drug and alcohol problems presented by adolescents and young adults. Indeed, some have argued that the substance abuse treatment system and treatment literature have been strongly biased towards young males to the neglect of not only the elderly, but women, some minorities, and people with disabilities (Benschoff & Janikowski, 2000). As a consequence, little is known or empirically reported about the unique needs presented by individuals who are elderly and experiencing drug and alcohol problems.

Finally, Levin and Kruger (2000) called substance abuse among older adults an "invisible epidemic" (p. 1) noting that older adults, relatives, and caregivers tend to downplay the existence of substance abuse problems in this population. Levin and Kruger asserted that the symptoms of alcohol and drug abuse are often

John J. Benschoff, Ph.D., CRC, Rehabilitation Counselor Training, Rehabilitation Training Institute - Mailcode 4609, Southern Illinois University at Carbondale, Carbondale, IL 62901-4609.
Email: jbenschhof@siu.edu

mistaken for the symptoms of aging problems such as dementia, depression, or other problems commonly seen in older adults.

Extensive data exist about prescription and over the counter drug use by the elderly. Although elderly individuals make-up 12.4% of the population, they consume 25% to 30% of all prescription drugs (Ondus et al., 1999). On a daily basis elderly adults consume more over-the-counter and prescription drugs than any other age group and are more likely to consume psychoactive drugs with a potential for misuse, abuse, and addiction (Levin & Kruger, 2000). In 1985 Vestal and Dawson (as cited in Crandall, 1991) listed the most frequently used drug types as analgesics (used by 67% of the population), cardiovascular drugs (34%), laxatives (31%), vitamins (29%), antacids (26%), and anti-anxiety medications (22%). More recently Ondus et al. noted that elderly individuals are 2-3 times more likely than younger individuals to be prescribed psychoactive drugs, most notably benzodiazepines. Notably, Levin and Kruger (2000) reported that benzodiazepines make up 17% to 23% of drugs prescribed for older adults.

Drug use appears to negatively affect the health of the elderly at a higher rate than other populations. Data suggest detrimental drug reactions occur 3 to 7 times more often for older adults (Crandall, 1991) and 12% to 17% of acute hospital admissions for adverse drug reactions occur in this population (Crandall, 1991). Similarly, Adams, Zhong, Barboriak, and Rimm reported that 11% to 20% of acute care hospital admissions among the elderly were alcoholism related (1993). Intentional abuse of prescription medications to get high is thought to be rare, but overuse does occur among this population. Often this over-use is related to multiple chronic health conditions being treated by several physicians. For example, an individual may be seeing a family practice physician for general health needs and specialists for specific diseases or illnesses. If these physicians are not communicating, the patient can be over-medicated and end up in serious difficulty. A more common adverse drug event among elderly persons who are poor is the under use of medication. Many individuals living at or below the poverty level and without a prescription drug plan may not have funds to purchase needed medication. This, of course, is a common scenario among individuals with disabilities who are poverty stricken.

Alcohol use, abuse, and dependence among the elderly population tend to occur at lower rates than in the general population; however data vary widely by study. Adams, Zhong, Barboriak, and Rimm (1993) reported that the prevalence of alcohol related problems in this population range from 1.4% of the elderly cohort to as high as 22%. The most recent National Household Survey on Drug Abuse revealed the over 65 years of age cohort has the lowest rates of alcohol use among any adult cohort, and by far the lowest rates of binge drinking and heavy alcohol use (Substance Abuse and Mental Health Services Administration, 2002). Alcohol use among the elderly is common with declines seen with advancing age (Rigler, 2000), but alcohol related problems are a significant cause of acute-care hospitalization in this group (Rigler, 2000; Adams et al., 1993).

It is difficult to adequately ascertain rates of abuse, use, and dependence among this group for several reasons. First, the elder-

ly cohort tends to be a "hidden" population, isolated from contact with traditional gatekeepers to treatment. They may not drive and thus are not likely to be arrested for driving under the influence; members of this cohort are usually retired and consequently do not experience alcohol-related job problems. Second, this is an age cohort more likely to view alcohol problems as a moral failing and may be less willing to report alcohol problems. Finally, the isolation imposed by failing health may reduce participation in social activities, but may not preclude drinking at home.

Early and Late Onset of Abuse

Traditionally, substance abusers over the age of 65 have been identified as early onset or late onset abusers (Benshoff & Roberto, 1987). More recently these categorizations have been conceptualized as chronic or situational (National Institute on Aging, 2002). Early onset abusers began drinking or drugging behavior before the age of 65 and continued to consume thereafter. Jung (1994) asserted early onset abusers frequently have significant physical and mental health problems, usually associated with their substance abuse history. Rigler (2000) reported that about two-thirds of elderly individuals with alcoholism problems are early onset drinkers, noting those individuals who survive the rigors of alcoholism problems in earlier life often have significant mental and physical health complications. Some individuals undoubtedly survive into old age because of genetics. Others probably survive because they have learned to moderate consumption to remain functional in the community and to maintain a semblance of good health. A common aphorism among aircraft pilots is that there are old pilots and bold pilots, but no old, bold pilots. The same may be true of the elderly cohort: there may be old drinkers and bold drinkers, but no old, bold drinkers.

Late onset abusers typically are individuals who begin their substance abuse after 65 usually in response to a negative life situation or event such as retirement, death of a spouse, decline in status in the community, or health setbacks. It is unclear, however, if a causal relationship exists (Rigler, 2000). For example, do individuals begin drinking after the loss of a spouse because of grief, or because the death resulted in the loss of a control mechanism? Does increased drinking after retirement result from despair in the change of life status or an inability to manage unstructured free time? Does a significant health crisis trigger increased alcohol consumption as a coping mechanism or as a way to supplement pain medication? Importantly, Peterson (1988) noted that adoption of illicit drug abuse in the later years is a rare phenomenon. Nearly all newly acquired substance abuse problems are alcohol related in the over 65 years old cohort.

Brennan and Moos (1996) reported that, in contrast to early onset drinkers, late onset drinkers typically have fewer physical and mental health problems. They also have stronger societal connections (e.g., they are more likely to be in a marital relationship and less likely to have been in a correctional facility) and are less likely to have ever been in drug or alcohol treatment. Consequently, late onset drinkers tend to have a better prognosis for recovery because they have not suffered the physical and psychological ravages of long-term alcohol and drug problems (Brennan & Moos, 1996).

Unique Issues: Moderating and Exacerbating Factors

Individuals in the age cohort comprising the over 65 population today have had life experiences that may moderate against drug and alcohol abuse. The older members of this cohort lived through the prohibition years in America and during the era when temperance was popular. In addition, nearly all of the members of this age cohort lived during a time when drug use was frowned upon by mainstream society and when the availability of drugs of abuse was limited. Individuals over the age of 65 were not exposed to illegal drug use at the same rates as the general population during their adolescent and young adult years, typically the time of greatest drug exploration. Alcohol use was more tightly controlled for this population, also, and additionally was stigmatized (National Institute on Alcohol Abuse and Alcoholism, 1998). Many states had "blue laws" on the books, supported by prohibitionist or temperance movements. These morality-based laws tended to restrict alcohol sales in terms of time and place. For example, many public venues were not permitted to sell alcohol and it was common for alcohol to be prohibited at sporting events, fairs, and other social gatherings. The vestiges of these laws and the prohibitionist and temperance movements are seen in the "dry" communities and counties that continue to exist in many states. As a consequence of their life experiences and societal events, many older adults view substance abuse as a moral failing (Marks, 2002).

In addition, this is an age cohort that has seen a lesser emphasis on legal drugs to treat illness and disease. For many years the wonder drugs of today did not exist and the drugs in use were not advertised in the Sunday supplement or on television.

As a consequence of the aforementioned life influences, it is probable that the current 65 and over age cohort is less likely to abuse drugs or alcohol. It will be interesting to examine drug and alcohol use and abuse rates in the forthcoming age cohort to determine if exposure to different levels of drug and alcohol availability will have a positive, neutral, or negative influence on drug or alcohol abuse.

Individuals on a low fixed-income may not have the funds for discretionary or luxury expenses, categories into which the purchase of drugs and alcohol may fall. However, financial status may be an exacerbating factor. Individuals on a low fixed-income who spend money for alcohol or drugs may do so at the neglect of more basic needs such as adequate food or medication. Consequently, alcohol or drug abuse may wreak greater havoc because of poor nutrition and lack of medical care. In addition, higher rates of alcohol consumption are reported among the affluent elderly residing in retirement communities (Atchley, 1997).

Frail health has been cited as a reason for discontinuing alcohol and drug use among the elderly population (Atchley, 1997). Declining health may impede individuals from leaving home to acquire drugs and alcohol, or may result in placement in a nursing home or similar long-term care facility where drug or alcohol access is prohibited. Additionally, evidence suggests that individuals in poor health may be more likely to consume medications that negatively interact with alcohol or mood-altering illicit drugs. Consequently, they may discontinue alcohol or drug use.

Perhaps the largest exacerbating factor contributing to substance abuse in the elderly is family, caregiver, and clinician complicity in the abuse process, a factor Benshoff and Roberto (1987) labeled the nice little old man/lady syndrome. Families may view the older adult's drinking or drug abuse as an irritant, but not a problem; they may actively engage in a codependency process which fosters the continuation of abuse, rationalizing that the abuse cannot be that harmful. They may view alcohol use as one of the few pleasures left to the older individual, and attribute problems more to the deficits related to aging. Ondus et al. (1999) asserted that:

Factors contributing to the clinician's lack of awareness of substance abuse in the elderly include lack of awareness of substance abuse as a potentially important problem for older adults, failure to obtain and/or record accurate drug histories, reluctance to ask potentially embarrassing questions and lack of initiation of any action regarding an older adult's substance use. (p. 28)

In short, the substance abusing elderly individual may be seen as a nice little old man/lady who could not possibly have a drug or alcohol problem.

Physiological/Psychological Concomitants of Substance Abuse in the Elderly

The physiological changes that occur naturally with aging result in increased sensitivity and decreased tolerance to alcohol and drugs in older individuals (Ondus et al. 1999; Norton, 1998). In addition, many older adults lose body mass, and consequently smaller amounts of drugs and alcohol have more profound effects. One of the major problems for older adults is the decreased absorption rate in the gastrointestinal system, thought to occur as a result of decreased blood flow to the GI system (Crandall, 1991). As a result, drugs and alcohol remain in the body longer and at higher rates of concentration.

The elimination of drugs and alcohol from the body occurs primarily through excretion and metabolism. Excretion is principally a function of the nephritic system in which blood-borne drugs and alcohol are transferred from the circulatory system to the urine via the kidneys. Nephritic function slows down with aging, resulting in slower excretion of drugs and alcohol and increased and prolonged drug or alcohol concentration in the body (Ondus et al., 1999).

Metabolism is the major mechanism by which drugs and alcohol are eliminated from the body. Metabolism occurs primarily in the liver and individuals with age-related or disease related change in liver function will experience slowed metabolism and increased amounts of the drug in the body for longer periods of time. In addition, the mortality rate for cirrhotic liver disease is about twice the mortality rate for the general population (Alcoveb, 2002).

Aging tends to result in a reduction in body muscle mass, total body water and lean body mass, and an increase in total body fat (Crandall, 1991). Consequently, the concentration of alcohol and the resultant sensitivity to alcohol is increased because alcohol is a water-soluble substance. Conversely, Ondus et al. (1999) pointed out that concentrations of lipid soluble drugs, particularly

the benzodiazepines, are increased, thus prolonging and increasing their effects. For many older adults the decrease in body mass is so significant that the typical adult dose of a medication, particularly a sedative-hypnotic medication, may be far too high.

The increased presence of substances in the body at higher concentration levels suggests that older adults may be significantly more susceptible to substance abuse problems at low dosage levels. The threshold between use and abuse for the average adult may be simply too high for the aging adult.

Injuries related to falls are a significant cause of hospitalization, nursing home placement, or decreased mobility among older adults (Lord, McLean, & Stathers, 1992), accounting for about 40% of accidental injuries in this population (Adams & Jones, 1998). Lord et al. found that, among older people living in the community, a significant relationship existed between falls and psychoactive drug use. They attributed the association to reduced cognitive awareness and reduced neural transmission speed. In a literature-based study, Adams and Jones (1998) outlined the presence of a plausible link between alcohol consumption and falls. Both studies, however, noted that a number of confounding variables exist when examining drug or alcohol-related falls and injuries including age and activity level of the participants, gender, and the presence of age related disorders.

Psychological co-morbidity of substance abuse and mental health problems is frequently mentioned in the literature (National Institute on Alcohol Abuse and Alcoholism, 1998; Norton, 1998). Mood disorders, and anxiety disorders are cited as common mental health problems in older adults (Hegel, Stanley, & Areán, 2002), and both may be exacerbated by alcohol or drug use. One of the realities of aging is the phenomenon of loss: loss of a spouse, loss of a job and status through retirement, loss of health, and loss of friendships and social opportunities (Norton, 1998). Depression is a frequent outcome of the losses related to aging and is also common consequence of alcohol problems among older adults (Doweiko, 1999). Indeed, loss and the resulting grief and depression can be a trigger for substance misuse/abuse in the elderly so that persons who have no previous substance problems may progress rapidly into problematic use.

Additionally, existing substance use disorders may be exacerbated by events such as the loss of a loved one or the onset of an age related disability. For this reason careful screening must include a thorough review of any factors that may be directly affecting substance use (Bleechem, 2002). Moore and Wolkstein (1996) suggested that determining whether substance abuse precedes another disability, co-occurs with another disability, or follows another disability can be critical in evaluating the impact of the alcohol and other drug abuse (AODA) disorder on the consumer as well as influencing potential choices for intervention. Evidence suggests that elderly individuals who are heavy drinkers are significantly more likely than nondrinkers to die of suicide, a depression related phenomenon (National Institute on Alcohol Abuse and Alcoholism, 1998).

Barriers to Successful Identification

The identification of substance abuse disabilities within the

elderly population presents several distinct challenges. Among these challenges are societal beliefs about the population, denial/resistance among the consumers, complications due to other coexisting disabilities, and unique patterns of onset. When these issues are not accounted for during intervention any of them may present significant barriers to effective identification and screening of substance abuse disabilities.

Attitudes, beliefs, and values toward persons with substance abuse disorders significantly influence the approach to dealing with these disorders (Koch, 2002). Examples of stereotypes influencing professional failure to identify substance abuse disorders might include pessimism about treatment efficacy for elderly persons or the erroneous belief that all persons with these disorders belong to a lower socio-economic class (all persons with substance abuse disorders live on skid row) which leads to a failure to screen middle or upper-class consumers (Menninger, 2002). Professionals may also fail to investigate problems that may be indicative of an substance abuse disorder (forgetfulness, emotional instability, or physical illness) due to making the assumption that problems are a natural part of "aging" (Norton, 1998). Additionally, they might assume that elderly consumers deserve to be able to over-consume alcohol as part of their right to a blissful retirement (Bleechem, 2002).

As with any population of persons experiencing substance abuse disorders, consumer denial can be a significant barrier to treatment (Bleechem, 2002; Miller & Rollnick, 1991). Persons who have been consuming alcohol or other drugs "successfully" for a long period of time may have difficulty recognizing the increasingly negative consequences of their use. Alternatively, they may perceive their substance use problems as being the result of aging rather than comprehending the relationship between their substance consumption and their physical/mental health. In both situations, individuals may be resistant to entering and participating in treatment.

Screening for substance abuse problems can also be complicated by the presence of other disabilities that are a natural part of the aging process or which may be induced by drugs or alcohol. Norton (1998) cautioned that professionals must rule out the potential that substance misuse may be creating disorders such as delirium, dementia, mood disorders, sexual dysfunction, and personality problems that might be presumed to be "age-related." Likewise, professionals need to be aware that other medical problems such as elevated liver enzymes, hepatitis, pancreatitis, hypertension, arrhythmia, and a variety of pulmonary problems may be indicative of substance abuse (Menninger, 2002).

Screening

Screening for substance abuse typically involves broad-based questionnaires designed to determine if consumers may be experiencing substance use disorders. No screening instrument described in this section will provide data sufficient to make a clinical diagnosis. However, they may help to determine if it is necessary to recommend a more thorough assessment by a fully trained substance abuse professional. Several traditional screening instruments have been utilized with the population of elderly

individuals including the CAGE, the Michigan Alcohol Screening Test (MAST), and the Alcohol Use Disorders Identification Test (AUDIT).

The CAGE is an easy to use, four question, interview that may be included as part of the initial intake as well as during the assessment/evaluation process. The CAGE is an easily administered instrument that has been identified as the most widely promoted standard screening test for clinical practice (Hester & Miller, 1995). The CAGE questions are: (a) Have you ever tried to cut down on your drinking?; (b) Do you become annoyed when others ask you about your drinking?; (c) Do you ever feel guilty about your drinking?; and (d) Have you ever used alcohol in the morning taking an "eye-opener." When consumers answer yes to any of the CAGE questions, further exploration of their use is indicated. Although, Norton (1998) suggested that some caution may be needed in using this instrument due to the paucity of reliability/validity data for its use with the elderly population, the CAGE represents a means by which any professional may initiate discussion about substance use.

The MAST and AUDIT are paper and pencil screening instruments that provide more detailed description of alcohol use. The MAST consists of 23 questions to which the consumer responds with either yes or no answers. Questions explore negative consequences related to alcohol use including legal, family, social, vocational, and medical/psychiatric problems. A version of the Michigan Alcohol Screening Test for use with elderly individuals has been developed (The MAST-G) and purports to measure elderly specific consequences and behaviors related to alcohol consumption (Menninger, 2002; Zimberg, 1996). The AUDIT is a 10-item survey that measures negative alcohol related consequences as well as allowing for a limited description of total alcohol consumption. Research has demonstrated that the MAST and the CAGE have comparable sensitivity for identifying alcoholism in elderly individuals while the AUDIT is somewhat less sensitive (Menninger, 2002). In addition, Rigler (2000) cautioned that the MAST and CAGE fail to distinguish between current and past drinking behaviors. All three of these instruments rely on client self-report and should be viewed with the usual skepticism. Prior to using any of these instruments, professionals should review Menninger's suggestions for adapting these instruments for use with the elderly population.

Treatment

When making treatment referrals several pitfalls can occur including: (a) lack of individualized treatment approaches; (b) lack of accessibility; and (c) over-reliance on the self-help model. Koch and Rubin (1997) cautioned that substance abuse treatment providers have had a history of providing "one size fits all" treatment that may not effectively meet the needs of individual consumers. Before making a referral, rehabilitation professionals are ethically bound to ensure the program they are utilizing will be specialized enough to meet the needs of consumers from the older age cohort. Norton (1998) recommended that psycho-educational, peer support, family interventions, and cognitive-behavioral interventions may be effectively tailored to meet the needs of the

elderly population and that treatment becomes more efficacious when it is not generic.

Substance abuse treatment professionals often provide several "levels of care" for consumers with substance abuse disorders. These levels of care include: outpatient care where consumers may receive 1-3 hours of group and individual counseling per week; intensive outpatient counseling where consumers may receive 9-20 hours of individual and group counseling per week; residential care with medical monitoring consisting of 24 hour supervision by substance abuse professionals and access to medical/psychiatric treatment; and medically managed care where services may be provided in a medical setting such as a psychiatric hospital. Typically services will be provided in the least restrictive environment based on the seriousness of the substance abuse disorders, however, when consumers present with medical and/or psychiatric complications they may quickly be referred to the most restrictive settings even though they may have less severe substance abuse diagnoses. However, rehabilitation professionals are obligated to advocate for the consumer's right to receive appropriate services given their individual needs.

Finally, rehabilitation professionals may tend to be too reliant on peer self-help approaches for dealing with substance abuse disorders. Koch and Benschhoff (2002) found that rehabilitation professionals tended to refer all of their consumers to Alcoholics Anonymous (AA) and to require participation in this program even though the individuals making the referral had very little insight into the program. This lack of awareness about the strengths and weaknesses of AA combined with the fact that many consumers may not benefit from participation in AA (Koch & Rubin, 1997) can produce unfortunate results. Older individuals may believe they do not fit into the group or have differing concerns from younger members. In addition, they may have age-related mobility or hearing problems that prevent participation in peer self-help groups. Norton (1998) suggested that elderly individuals do better in self-help groups composed of same-age peers. Finally, peer self-help groups can be an excellent treatment adjunct, but they are not a substitute for professional intervention.

Conclusion

For various reasons substance abuse in the elderly population has not been viewed as a serious or widespread problem. Researchers have rarely addressed the unique issues faced by this group of individuals, traditional care providers have been slow or reluctant to identify problems and few elderly-specific treatment resources have been developed. To adequately provide services for the elderly with substance abuse problems practitioners should be aware of the pathways of development of substance abuse and the influences that perpetuate the disorder. These influences include cohort effects, socioeconomic status, frail health, discretionary income, status as a hidden population, and caregiver complexity. Additionally, it is important to be aware of the physiological and concomitant effects of alcohol and other substances. Life events such as the loss of loved ones, the onset of age-related health problems, and the failure of caregivers to recognize and confront drug and alcohol may contribute to the development and continuation of the abuse. Finally, appropriate screening instru-

ments can be used in identifying substance use, abuse, and dependence in the elderly and therefore increase the likelihood of developing an effective treatment plan. Above all, future research should center on unique, elderly-specific identification, intervention and treatment strategies.

References

- Adams, W. L., Zhong, Y., Barboriak, J. J., & Rimm, A. A. (1993). Alcohol-related hospitalizations of elderly people: Prevalence and geographic variation in the United States. *Journal of the American Medical Association, 270*, 1222-1225.
- Adams, W. L., & Jones, T. V. (1998). Alcohol and injuries in elderly people. *Addiction Biology, 3*, 237-238.
- Administration on Aging. (2002). A profile of older Americans: 2001 (Future growth). Retrieved Aug. 28, 2002 from <http://www.aoa.dhhs.gov/aoa/STATS/profile/2001/2.html>
- Alcoveb (2002). Alcohol, health: Alcohol and the elderly. Retrieved Aug. 28, 2002 from http://www.alcoveb.com/english/gen_info?...ety/alco_social_env/elderly/elderly.html
- Atchley, R. C. (1997). *Social forces and aging: An introduction to social gerontology* (8th ed.). Belmont, CA: Wadsworth.
- Bleechem, M. (2002). *Elderly alcoholism: Intervention strategies*. Springfield, IL: Charles C Thomas.
- Benshoff, J. J., & Janikowski, T. P. (2000). *The rehabilitation model of substance abuse counseling*. Belmont, CA: Wadsworth.
- Benshoff, J. J., & Roberto, K. A. (1987). Alcoholism in the elderly: Clinical issues. *Clinical Gerontologist, 7*(2), 3-13.
- Brennan, P. L., & Moos, R. H. (1996). Late-life drinking behavior. *Alcohol Health and Research World, 20*(3), 197-205.
- Crandall, R. C. (1991). *Gerontology: A behavioral science approach* (2nd ed.). New York: McGraw-Hill.
- Doweiko, H. E. (1999). *Concepts of chemical dependency* (4th ed.). Pacific Grove, CA: Brooks/Cole.
- Hegel, M. T., Stanley, M. A., & Areán, P. E. (2002). Minor depression and subthreshold anxiety symptoms in older adults: Psychosocial therapies and special considerations. *Generations, 26*(1), 44-49.
- Hester, R.K., and Miller W. R. (1995). *Handbook of alcoholism treatment approaches: Effective alternatives* (2nd ed.). Boston: Allyn and Bacon.
- Jung, J. (1994). *Under the influence: Alcohol and human behavior*. Belmont, CA: Wadsworth.
- Koch, D. S. (2002). *Alcohol and other drug abuse disabilities: A special challenge for rehabilitation professionals*. In J.D. Andrew & C.W. Faubion (Eds.), *Rehabilitation services: An introduction for human service professionals*. Osage Beech, MO: Aspen Professional Services.
- Koch, D. S. & Benshoff, J. J., (2002). Rehabilitation professionals' familiarity with and utilization of alcoholics anonymous. *Journal of Applied Rehabilitation Counseling, 33*(3), 35-40.
- Koch, D. S. & Rubin, S. E., (1997). Challenges faced by rehabilitation counselors working with alcohol & other drug abuse in a "one size fits all" treatment tradition. *Journal of Applied Rehabilitation Counseling, 28*(1), 31-35.
- Levin, S. M., & Kruger, J. (Eds.). (2000). *Substance abuse among older adults: A guide for social service providers*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Lord, S. R., McLean, D., & Stathers, G. (1992). Physiological factors associated with injurious falls in older people living in the community. *Gerontology, 38*, 338-346.
- Marks, A. (March, 2002). Illicit drug use grows among the elderly. *Christian Science Monitor, 94*(85), 3.
- Menninger, J. A. (2002). Assessment and treatment of alcoholism and substance-related disorders in the elderly. *Bulletin of the Menninger Clinic, 66*, 166-184.
- Miller, W.R., & Rollnick, S. (1991). *Motivational interviewing: Preparing people to change addictive behavior*. New York: Guilford Press.
- Moore, D. & Wolkstein, E. (1996). Substance abuse, disability and vocational rehabilitation. Dayton, Ohio: Rehabilitation Research and Training Center on Drugs and Disability (SARDI) at Wright State University.
- National Institute on Aging. (2002). AgePage: Aging and alcoholism. Retrieved August 13, 2002 from <http://www.nia.nih.gov/health/agepages/alcohol.html>
- Norton, E. D. (1998). Counseling substance abusing older adults. *Educational Gerontology, 24*, 373-390.
- Ondus, K. A., Hujer, M. E., Mann, A. E., & Mion, L. C. (1999). Substance abuse and the hospitalized elderly. *Orthopedic Nursing, 18*(4), 27-36.
- Pennington, H., Butler, R., & Eagger, S. (2000). The assessment of patients with alcohol disorders by an old age psychiatric service. *Aging & Mental Health, 4*, 182-185.
- Peterson, D. M. (1988). Substance abuse, criminal behavior, and older people. *Generations, 12*(4), 63-67.
- Rigler, S. K. (2000). Alcoholism in the elderly. *American Family Physician, 61*, 1710-1716.
- Substance Abuse and Mental Health Services Administration (2002). 2000 National Household Survey of Drug Abuse. Retrieved August 14, 2002 from http://www.samhsa.gov/news/click3_frame.html
- Winnick, C. (1962). Maturing out of narcotic addiction. *United Nations Bulletin on Narcotics, 14*, 3-9.
- Zimberg, S. (1996). Treating alcoholism: An age specific intervention that works for older patients. *Geriatrics, 51*(10), 45-49.

Copyright of Journal of Rehabilitation is the property of National Rehabilitation Association. The copyright in an individual article may be maintained by the author in certain cases. Content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.