Alcohol and Health: Current Evidence

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Coming Next Issue:

New Name. Broader Coverage. Same Reliable Newsletter.

We are very pleased to announce that *Alcohol and Health: Current Evidence* is expanding its scope. Beginning with the May-June 2007 issue, the newsletter will cover the latest clinically relevant research on **both alcohol and other drugs**.

To reflect this broader coverage, the newsletter's name will change to *Alcohol, Other Drugs, and Health: Current Evidence*, and its website address will become www.aodhealth.org. Everything else—the relevant and succinct summaries, insight from experts in the field, valuable teaching tools, CME opportunities, and unbiased funding sources—will remain the same.

We look forward to bringing you a wider range of valuable information on substance use that you can apply in your clinical teaching, practice, or research. For additional information, visit www.alcoholandhealth.org.

Alcohol and Health Outcomes

Alcohol Intake Triggers Recurrent Gout Attacks

Alcohol use may trigger recurrent gout attacks. Researchers tested this hypothesis through a web-based study of people who had a gout attack in the past year. Subjects were recruited online over 10 months and completed online surveys that assessed alcohol use and risk factors for gout attacks.

Over 1 year of follow-up, 321 gout attacks occurred among 197 subjects. In analyses adjusted for diuretic use and purine intake, the likelihood of a gout attack increased as alcohol intake increased within the

- 24 hours preceding the attack (P <0.02) (e.g., odds ratios comparing drinking with not drinking: 1.4 [95% CI, 0.6–2.4] for 1–2 drinks; 3.1 [95% CI, 1.0–11.0] for ≥7 drinks);
- 48 hours preceding the attack (P <0.005) (e.g., odds ratios 1.1 [95% CI, 0.7–2.0] for 1–2 drinks; 2.5 [95% CI, 1.1–5.9] for ≥7 drinks).
- In analyses also adjusted for total alcohol consumption, the risk of an attack was not associated with any specific alcoholic beverage.

Comments: According to this study, the risk of a recurrent gout attack significantly increases as drinking increases, particularly in people drinking ≥7 drinks, in the 24 or 48 hours before the attack. Total consumption appears to affect risk more than intake of a specific beverage. Thus, people with gout should be very careful about consuming alcohol, especially larger amounts, as such consumption could trigger a gout attack.

R. Curtis Ellison, MD

Reference: Zhang Y, et al. Alcohol consumption as a trigger of recurrent gout attacks. *Am J Med.* 2006;119 (9):800.e13–800.e18.

Alcohol and Health: Current Evidence **is a project of the Boston Medical Center, supported by the National Institute on Alcohol Abuse and Alcoholism, and produced in cooperation with the Boston University Schools of Medicine and Public Health.**

All Relapses Are Not the Same

Recurrent drinking is common among patients with alcohol dependence who have received treatment. This study assessed whether certain types of relapses are more likely to recur, are more severe, or are more amenable to a particular psychosocial therapy.

Researchers examined data from 592 of 952 outpatients with alcohol dependence who had been randomized in a larger trial to receive motivational enhancement therapy, cognitive-behavioral therapy, or twelve-step facilitation therapy. These 592 subjects had experienced a relapse (i.e., drinking after being abstinent for at least 14 days) and completed the relapse-onset section of the Relapse Questionnaire, which assesses patient-perceived influences that contribute to relapse.

- Relapses were divided into 3 types: negative affect/family influences, craving/cued, and social pressure.
- When relapses recurred, they were often (about half the time) the same type as the initial relapse.
- Social pressure relapses were most likely to repeat (58% of the time). Negative affect relapses were the most severe (i.e., associated with a greater number of drinks consumed per day).
- The 3 therapies affected the overall risk of relapse similarly. However, motivational enhancement therapy offered less protection than the other therapies against social pressure relapse.

Comments: This study provides a typology that can help clinicians efficiently assess relapse risk among patients with alcohol dependence. Clinicians who understand their patients' prior types of relapses have the opportunity to provide individualized relapse prevention counseling or referral.

Peter Friedmann, MD, MPH

Reference: Zywiak WH, et al. Relapse-onset factors in Project MATCH: the Relapse Questionnaire. *J Subst Abuse Treat.* 2006;31(4):341–345.

Early-Onset Drinking May Increase Later Stress-Related Drinking

Drinking in adolescence is associated with a higher likelihood of unhealthy alcohol use later in life. To determine whether stress modifies this relationship, researchers examined data on 26,946 past-year drinkers (mean age of 43 years) from a national survey on alcohol and related conditions.

- Past-year alcohol consumption and stress were inversely related to age of first drink. Subjects who began to drink at or before age 14 years, versus those who began to drink at or after age 18 years, consumed more alcohol (1.4 versus 0.4 ounces per day) and experienced more stress (2.6 versus 1.6 stressors*) in the past year.
- In analyses adjusted for potential confounders (e.g., demographics, family history of alcoholism, comorbid psychopathology), alcohol consumption significantly increased by an average of 7% with each additional stressor among subjects who began to drink at or before age 14 years. Such stress-related increases in consumption were not seen in subjects who began to drink at a later age.

Comments: Early-onset drinking increases the risks of later consequences, which clinicians can help prevent. As suggested by this study, clinicians should recognize that heavy drinking is a possible sign of stress and should help their patients manage stress in other ways.

Joseph Conigliaro, MD, MPH

*Any of 12 different types of serious stressful life events ranging from serious financial problems to the death of a family member

Reference: Dawson DA, et al. Impact of age at first drink on stress-reactive drinking. *Alcohol Clin Exp Res.* 2007;31(1):69–77.

Alcohol Metabolism Genes May Modify Risk of Esophageal Cancer From Drinking

Polymorphisms of alcohol and aldehyde dehydrogenase (ADH1B and ALDH2) have been associated with an increased risk of esophageal cancer. Researchers in Taiwan aimed to confirm this association and determine whether lifetime alcohol use modifies it. They compared demographic characteristics, substance use, and genotype frequencies in 330 men with esophageal cancer and 592 healthy controls. Analyses were adjusted for potential confounders, including baseline variables on which cases and controls significantly differed (e.g., educational attainment, smoking status, alcohol consumption, areca nut chewing).

The odds of esophageal cancer were significantly higher in subjects with

- ADH1B*1/*1 versus ADH1B*2/*2 (odds ratio [OR] 4.0);
- ALDH2*1/*2 or ALDH2*2/*2 versus ALDH2*1/*1 (ORs 5.0 and 4.2, respectively);
- alcohol use, particularly if they had any of the above susceptible genotypes.

Comments: The results of this study are difficult to interpret. The many baseline differences between groups make it challenging to adequately adjust for confounding in multivariable analysis. Further, the results may be specific to Taiwanese populations. While it is clear that heavy drinking increases the risk of esophageal cancer (as well as cancers of the mouth and pharynx), the specific genetic mechanisms responsible for this risk are still poorly understood.

R. Curtis Ellison, MD

Reference: Chen YJ, et al. Interactive effects of lifetime alcohol consumption and alcohol and aldehyde dehydrogenase polymorphisms on esophageal cancer risks. *Int J Cancer*. 2006;119(12):2827–2831.

Assessments and Interventions

Counseling Can Reduce Alcohol Exposure During Pregnancy

Two recent studies assessed the potential benefits of alcohol counseling for women who were or at risk of becoming pregnant.

In the first study, 345 pregnant women who drank were randomized to receive one of the following at monthly prenatal visits for as long as they continued to drink: an alcohol assessment and advice to stop drinking, or the assessment, advice, and a 10- to 15-minute scripted counseling session delivered by a nutritionist. Women in the intervention group were significantly more likely than women in the assessment-only group to report abstinence (odds ratio 5.4). Further, fetal mortality was lower in the intervention group than in the assessment-only group (0.9% versus 2.9%).

In the second study, researchers randomized 830 women of childbearing potential who were not pregnant or planning to become pregnant, did not use effective contraception, and drank risky amounts (>8 drinks per week or >5 drinks on any day) to receive one of the following: alcohol and contraception information only, or information plus 5 counseling sessions (4 motivational interviewing sessions and 1 contraceptive counseling session) over 14 weeks. At 9 months, women in the counseling group versus those in the information-only group were less likely to be drinking risky amounts or not using effective contraception (31% versus 46%).

Comments: The first study highlights the importance of brief interventions during prenatal care and suggests that clinic team members can effectively provide them. The second study is important because of its focus on preconception and contraceptive counseling for women who were not planning pregnancy. Implementing either intervention in clinical practice will be a challenge.

Joseph Conigliaro, MD, MPH
Richard Saitz, MD, MPH

References: O'Connor MJ, et al. Brief intervention for alcohol use by pregnant women. *Am J Public Health*. 2007;97(2):252–258; Floyd RL, et al. Preventing alcohol-exposed pregnancies: a randomized controlled trial. *Am J Prev Med*. 2007;32(1):1–10.

Few Seek Alcohol Services, Regardless of Race/Ethnicity

Health disparities in service utilization for alcohol use disorders have not been adequately studied. To assess such utilization among whites, blacks, and Hispanics, researchers examined data from two nationally representative surveys conducted in 1995 (n=5345, response rate 77%) and 2000 (n=7612, response rate 58%).

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Few Seek Alcohol Services, Regardless of Race/Ethnicity (continued from page 3)

- Of people who ever had alcohol abuse or dependence, 16% of blacks, 16% of whites, and 15% of Hispanics ever sought help (from Alcoholics Anonymous, a specialty treatment program, a hospital or clinic, a private physician, or a social services provider).
- The types of services sought were similar across groups. However, Hispanics were less likely than whites to seek specialty treatment (6% versus 10%).
- In a multivariable analysis adjusted for demographics and social pressures to stop drinking, blacks and Hispanics with more dependence symptoms were less likely than whites with more symptoms to use alcohol services. Also, of subjects who considered seeking help, Hispanics were more likely than whites to report a logistical or financial reason for not seeking help (58% versus 36%), but blacks and Hispanics were as likely as whites to report cultural reasons (e.g., language).

Comments: These data suggest that race and/or ethnicity may affect help seeking and receipt of alcohol services. But the most striking finding of this study is already known: most people with alcohol use disorders do not seek or receive help. Much work, including efforts that address patient motivation, clinician recognition of problems, the quality of alcohol services, and barriers encountered by help seekers, is required to get help to those in need.

Richard Saitz, MD, MPH

Reference: Schmidt LA, et al. Ethnic disparities in clinical severity and services for alcohol problems: results from the National Alcohol Survey. *Alcohol Clin Exp Res*. 2007;31 (1):48–56.

If Trained and Prompted, Will Primary Care Clinicians Offer Relapse Prevention?

Clinical assistance to help prevent relapse in patients with past alcohol problems is not the norm in primary care practice. In this study, 18 clinicians in 2 primary care offices were randomized to provide usual care or to receive training on relapse prevention (i.e., initial sessions on maintenance care for patients in remission, an academic detailing luncheon, and a booster session) and chart prompts at eligible* patients' visits.

Patients were interviewed (n=164) after a visit with their clinician to determine their satisfaction with the visit and whether the clinician asked about their drinking history, assessed prior and planned treatment, or offered prescriptions or treatment referrals.

- The training significantly improved clinicians' confidence in assessing and counseling patients in remission.
- In multivariable analyses adjusted for age and score on the CAGE alcohol screening test, intervention clinicians were more likely than control clinicians to ask patients about their history of alcohol issues (odds ratio 2.8).
- Intervention clinicians who asked patients about their alcohol history were also more likely to discuss prior and planned alcohol treatment and to offer prescriptions and treatment referrals.
- Patients of intervention clinicians who were asked about alcohol use reported the greatest satisfaction with the visit.

Comments: This study, unique in its exclusive focus on maintenance care for primary care patients with past unhealthy alcohol use, does not allow readers to determine the independent effect of training versus prompting. Nevertheless, it does suggest that these methods may increase the likelihood that clinicians will help prevent their patients in recovery from relapsing.

Jeffrey Samet, MD, MA, MPH

*Endorsed 1 or more items on the CAGE alcohol screening questionnaire or had an alcohol problem in the past, made a change in their drinking and tried to maintain it, and drank <15 drinks per week in the past month (<10 for women)

Reference: Friedmann PD, et al. Training primary care clinicians in maintenance care for moderated alcohol use. *J Gen Intern Med*. 2006; 21(12):1269–1275.

Follow-Up Assessment Reduces Drinking

Assessment of drinking, even without a subsequent intervention, may induce drinking changes. To examine this possibility, researchers studied data from 293 students in New Zealand who had participated in a randomized trial of screening and brief intervention for unhealthy alcohol use.

These students—all with an Alcohol Use Disorders Identification Test score of ≥8 and a heavy drinking episode (>6 drinks for men, >4 for women) in the last 4 weeks—had been randomized to receive either of the following: a

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Follow-Up Assessment Reduces Drinking (continued from page 4)

leaflet describing drinking risks and safe limits, or a leaflet and then a 10-minute web-based drinking assessment 4 weeks later. The assessment included a drinking diary, alcohol and academic problems scales, and questions on perceived drinking norms.

At 6 months (84% follow-up rate), most drinking outcomes were better, though nonsignificantly, in the assessment group than in the leaflet-only group. At 12 months (86% follow-up rate), however, the assessment group had significantly

- less consumption in the past 2 weeks (25 drinks for the assessment group versus 30 drinks for the leaflet-only group);
- fewer episodes of drinking >9 drinks (>6 for women) in the past 2 weeks (0 versus 1) and alcohol-related problems (2 versus 3);
- lower AUDIT scores (13 versus 14).

Comments: Although many primary care clinicians lack confidence in their ability to intervene with unhealthy drinking, most have the skills to ask about current consumption and possible consequences. This study suggests that screening for unhealthy alcohol use, delivery of written materials (such as the National Institute on Alcohol Abuse and Alcoholism's *How to Cut Down on Your Drinking*), and follow-up assessment at future visits may help to reduce drinking and its adverse consequences.

Peter D. Friedmann, MD, MPH

Reference: Kypri K, et al. Assessment may conceal therapeutic benefit: findings from a randomized controlled trial for hazardous drinking. *Addiction.* 2006;102(1):62–70.

Special Populations

Moderate Drinking Improves Quality and Length of Life in Elderly Women

This study examined whether alcohol intake affects mortality risk or health-related quality of life in older women. Researchers evaluated survey data, collected over 6 years, from 11,878 Australian women aged 70 to 75 years at baseline. Analyses were adjusted for potential confounders (e.g., comorbidity, smoking).

Women who did not consume alcohol or drank only rarely/less than every week were more likely than women who drank 1–2 drinks per day on 3–6 days per week to

- die (hazard ratio 1.9 for nondrinkers; 1.6 for rare drinkers);
- have lower health-related quality of life (measured among survivors by the Medical Outcomes Study 36-Item Short Form Survey).

Comments: The results of this relatively large, prospective cohort study of elderly women suggest that moderate alcohol consumption not only reduces the risk of mortality, but also may improve health-related quality of life. The mechanisms to explain these outcomes are not clear. However, the authors suggest that in addition to the positive effects of ethanol, the social benefits of drinking and improved appetite that possibly accompanies moderate alcohol use may explain the longer and healthier lives of older female drinkers in this study.

R. Curtis Ellison, MD

Reference: Byles J, et al. A drink to healthy aging: the association between older women's use of alcohol and their health-related quality of life. *J Am Geriatr Soc.* 2006;54 (9):1341–1347.

Does Drinking Increase the Risk of Falls and Fractures in Older Men?

Alcohol use may influence the risk of bone fracture through its effects on bone mineral density (BMD) and fall risk. To examine this possibility, researchers assessed alcohol use and BMD at baseline, falls over about 1 year, and fractures over about 4 years in 5974 men aged 65 or older. Analyses were adjusted for potential confounders (e.g., age, weight, height).

- BMDs of the femoral neck, total hip, and lumbar spine were slightly greater in moderate and heavier drinkers than in nondrinkers and in subjects with, versus without, current binge drinking. Femoral neck and lumbar spine BMDs were also greater in subjects who ever had problem drinking.*

*Alcohol definitions: nondrinker, <12 drinks per year; moderate drinker, ≥12 drinks per year to <14 drinks per week; heavier drinker/amounts, ≥14 drinks per week; current binge drinking, ≥5 drinks on 1 day at least once in past year; problem drinking, score of ≥2 on the CAGE alcohol screening test

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Drinking and the Risk of Falls and Fractures (continued from page 5)

- The risk of ≥2 falls over 1 year was lower in moderate drinkers than in nondrinkers (relative risk [RR] 0.8). Risk was higher, however, in subjects with, versus without, a history of binge drinking on most days or problem drinking (RRs 1.4 and 1.6, respectively). Drinking heavier amounts or current binge drinking did not affect risk.
- Incident fractures were not significantly associated with any of the drinking measures.

Comments: In this large cohort of older men, drinking appeared to influence the risk of falls but not fractures. It is unknown whether the small increase in bone mineral density associated with alcohol use protects against fractures. Still, fall risk should be carefully assessed in older men who drink, especially those with a history of binge or problem drinking.

Kevin L. Kraemer, MD, MSc

Reference: Cawthon PM, et al. Alcohol intake and its relationship with bone mineral density, falls, and fracture risk in older men. *J Am Geriatr Soc.* 2006;54 (11):1649–1657.

Drinking, Atherosclerotic Risk, and Flushing in Asians With Diabetes

The relationship between alcohol use and atherosclerotic risk may differ between Asians with and without a high sensitivity to alcohol. In this cross-sectional study, researchers assessed alcohol use, atherosclerotic risk factors, and flushing (a marker for alcohol sensitivity) in 225 Asian adults with type 2 diabetes. Analyses were adjusted for potential confounders (e.g., age, treatment for hypertension).

- Forty-four percent of subjects did not drink alcohol; 19% drank moderately, and 37% drank heavier amounts.*
- Thirty percent of subjects were nonflushers, and 56% were "always" flushers (occasional flushers were excluded from analyses). Nonflushers reported a higher mean alcohol intake than "always" flushers (approximately 25 versus 8 drinks per week).
- Among nonflushers, drinking did not affect blood pressure, total cholesterol, or high-density lipoprotein (HDL) cholesterol.
- Among "always" flushers, those who drank heavier amounts had higher diastolic blood pressure and HDL cholesterol than did nondrinkers, and higher systolic blood pressure than did both nondrinkers and moderate drinkers. Total cholesterol did not differ across drinking categories.
- Drinking did not affect other risk factors (e.g., fibrinogen, uric acid, HBA1c) in nonflushers and "always" flushers.

Comments: In this study, Asians with diabetes who flush in response to alcohol but who still averaged ≥1 drinks per day had higher blood pressure and HDL cholesterol than did flushers who abstained. The significance of these findings is uncertain because the study's design was cross-sectional. Further, the main outcomes associated with heavier drinking have opposite effects on atherosclerotic risk (i.e., higher blood pressure confers a greater risk and higher HDL cholesterol confers less risk).

Kevin L. Kraemer, MD, MSc

*Moderate amounts: approximately <11 drinks per week; heavier amounts: approximately ≥11 drinks per week

Reference: Wakabayashi I, et al. Influence of drinking alcohol on atherosclerotic risk in alcohol flushers and non-flushers of oriental patients with type 2 diabetes mellitus. *Alcohol Alcohol.* 2006;41(6):672–677.

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The major journals regularly reviewed for the newsletter include the following:

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AIDS
Alcohol
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American Journal of Drug & Alcohol Abuse
American Journal of Epidemiology
American Journal of Medicine
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Substance Use & Misuse
Many others periodically reviewed (see www.alcoholandhealth.org)

Contact Information:

Alcohol and Health: Current Evidence
Boston University School of Medicine/
Boston Medical Center
91 East Concord Street, Suite 200
Boston, MA 02118
ahce@bu.edu