

"I would do anything for my child, even quit tobacco": Bonus effects from an intervention that targets adolescent tobacco use.

Nilsson M; Stenlund H; Weinehall L; Bergstrom E; Janlert U. *Scandinavian Journal of Psychology* 50(4): 341-345, 2009. (25 refs.)

This paper aims to assess program bonus effects on adult tobacco use from a long-term intervention that targeted adolescent tobacco use. The school-based community intervention started in Vasterbotten County in Sweden in 1993 and adults were invited to support adolescents to stay tobacco-free. It was combined with repeated cross-sectional surveys in schools annually 1994-99 among grades 7-9 and after 1999 every second year. Participating schools were randomly selected before the first survey representing both rural and urban settings. Out of 4,055 students, 1,008 (24.8%) reported that their supporting adult had been a tobacco user who quit tobacco in order to be allowed to participate. Out of these, 13.2% used tobacco daily before joining. The remaining 2,997 students' adult partners were not tobacco users. Engaging tobacco using adults as partners in interventions targeting adolescent tobacco use seem to have a considerable tobacco-reducing bonus effect in the adults. Copyright 2009, Wiley-Blackwell Publishing.

Adolescent inhalant use, abuse and dependence.

Perron BE; Howard MO. *Addiction* 104(7): 1185-1192, 2009. (21 refs.)

To compare adolescent inhalant users without DSM-IV inhalant use disorders (IUDs) to youth with IUDs (i.e. abuse or dependence) across demographic, psychosocial and clinical measures. Cross-sectional survey with structured psychiatric interviews. Facilities (n = 32) comprising the Missouri Division of Youth Services (MDYS) residential treatment system for juvenile offenders. Current MDYS residents (n = 723); 97.7% of residents participated. Most youth were male (87%) and in mid-adolescence (mean = 15.5 years, standard deviation = 1.2, range = 11-20); more than one-third (38.6%, n = 279) reported life-time inhalant use. Antisocial behavior, temperament, trauma-exposure, suicidality, psychiatric symptoms and substance-related problems. Among life-time inhalant users, 46.9% met criteria for a life-time DSM-

IV IUD (inhalant abuse = 18.6%, inhalant dependence = 28.3%). Bivariate analyses showed that, in comparison to non-users, inhalant users with and without an IUD were more likely to be Caucasian, live in rural or small towns, have higher levels of anxiety and depressive symptoms, evidence more impulsive and fearless temperaments and report more past-year antisocial behavior and life-time suicidality, traumatic experiences and global substance use problems. A monotonic relationship between inhalant use, abuse and dependence and adverse outcomes was observed, with comparatively high rates of dysfunction observed among inhalant-dependent youth. Multivariate regression analyses showed that inhalant users with and without an IUD had greater levels of suicidal ideation and substance use problems than non-users. Youth with IUDs have personal histories characterized by high levels of trauma, suicidality, psychiatric distress, antisocial behavior and substance-related problems. A monotonic relationship between inhalant use, abuse and dependence and serious adverse outcomes was observed. Copyright 2009, Society for the Study of Addiction to Alcohol and Other Drugs.

Binge drinking among youths and young adults in the United States: 1979-2006.

Gruza RA; Norberg KE; Bierut LJ. *Journal of the American Academy of Child and Adolescent Psychiatry* 48(7): 692-702, 2009. (35 refs.)

Objective: To evaluate trends in the past 30-day prevalence of binge drinking by age, sex, and student status, among youths and young adults in the United States between 1979 and 2006, a period that encompasses the federally mandated transition to a uniform legal drinking age of 21 years, and other policy changes aimed at curbing underage drinking. Method: Data were analyzed from 20 administrations of the National Survey on Drug Use and Health, yielding a pooled sample of more than 500,000 subjects. Trends in relative risk for four different age groups, stratified by sex, relative to the 24- to 34-year-old reference group were calculated. We also examined trends in risk for binge drinking associated with student status (among college-age students) and race/ethnicity. Results: Significant reductions in relative risk for binge drinking over time were

observed for 12- to 20-year-old males, but no changes were observed for females in this age range, and binge drinking among minority females increased. Risk for binge drinking increased among 21- to 23-year-old women, with college women outpacing nonstudents in this age range. Trends also indicate that no reduction in binge drinking occurred for college men. Conclusions: Although the overall trend is toward lower rates of binge drinking among youths, likely a result of a higher legal drinking age and other changes in alcohol policy, little improvement has occurred for college students, and increases in binge drinking among women has offset improvements among youths. Understanding these specific demographic trends will help inform prevention efforts. Copyright 2009, Lippincott, Williams & Wilkins.

Does alcohol outlet density affect youth access to alcohol?

Chen MJ; Gruenewald PJ; Remer LG. *Journal of Adolescent Health* 44(6): 582-589, 2009. (37 refs.)

Purpose: To investigate how community alcohol outlet density may be associated with alcohol access among adolescents. Methods: Data were collected through a three-wave panel study with youth aged 14-16 at baseline using computer-assisted telephone interviews. Study participants were recruited from 50 zip codes with varying alcohol outlet density and median household income in California. Data analyses were conducted using multilevel, linear growth models and data from 1028 youth (52% male, 51% white). Results: After taking into account individual-level factors and zip code median household income, zip code alcohol outlet density was significantly and positively related to the initial levels of the likelihood and frequency of getting alcohol through various sources including commercial outlets, shoulder tapping, home or family members, and underage acquaintances. Conclusions: High levels of alcohol outlets in the community enable youth access to alcohol through commercial outlets, family, and social networks. Copyright 2009, Society for Adolescent Medicine.

Effectiveness of very low-cost contingency management in a community adolescent treatment program.

Lott DC; Jencius S. *Drug and Alcohol Dependence* 102(1/3): 162-165, 2009. (17 refs.)

Controlled studies have shown that motivational incentives reduce drug use, but community implementation has been limited. This observational study examines the effect of a contingency management (CM) Program on urine, attendance, and cost measures in a community substance abuse

treatment program for adolescents. Treatment included elements of 12-step facilitation, cognitive behavioral therapy, and motivational enhancement. All urine tests included cannabinoids, opioids, benzodiazepines, cocaine, and amphetamines. Patients with negative urines or perfect attendance earned chances to draw weekly from a bag for prizes of varying value, and the number of draws increased with each consecutive negative urine test. Data were collected for those patients (age 12-18) treated immediately before (n = 83) and after (n = 264) the CM program was introduced to the treatment center, and positive urine rates were compared using chi-square tests. Patients treated with the CM program had lower rates of urines positive for opioids (p < 0.005) and cocaine (p < 0.05), and non-significantly but consistently lower rates of urines positive for all other drug classes. Altogether, the proportion of urines positive for any drug decreased from 33.3% to 23.4% (p < 0.01). Pre- and post-CM comparisons of attendance reveal lower daily attendance rates but longer retention in treatment. Expenses were minimal at \$0.39 per patient per day. These data yield additional evidence for the feasibility and effectiveness of CM methods in community adolescent treatment programs. Copyright 2009, Elsevier Science.

Effects of youth tobacco access and possession policy interventions on heavy adolescent smokers.

Jason LA; Pokorny SB; Adams ML; Topliff A; Harris CC; Hunt Y. *International Journal of Environmental Research and Public Health* 6(1): 1-9, 2009. (23 refs.)

This study evaluated the effects of tobacco PUP (purchase, use and possession) laws on tobacco use patterns among students in twenty-four towns, which were randomly assigned into an experimental and a control group. The experimental group involved both PUP law enforcement and reducing minors' access to commercial sources of tobacco, and the condition for the control group involved only efforts to reduce minors' access to commercial sources of tobacco. The present study found that adolescents in the control group had a significantly greater increase in the percentage of youth who smoked 20 or more cigarettes per day when compared to the experimental group. Copyright 2009, Molecular Diversity Preservation.

Evaluation of school-based smoking-cessation interventions for self-described adolescent smokers.

Joffe A; McNeely C; Colantuoni E; An MW; Wang WW; Scharfstein D. *Pediatrics* 124(2): E187-E194, 2009. (21 refs.)

OBJECTIVE: The goal was to compare the efficacy of school-based, multisession, group smoking-cessation

interventions versus a single group session in increasing quit rates among adolescent smokers. **METHODS:** Eight schools were assigned randomly to use 1 of 2 group smoking-cessation programs previously shown to increase quit rates among adolescents (Not on Tobacco [NOT] or Kickin' Butts). We reformatted the programs to twice-weekly 25- to 30-minute sessions delivered during lunch periods. Smoking status was assessed at end of program (EOP) and 1, 3, 6, and 12 months later. Self-reported quit status was confirmed with salivary cotinine levels. **RESULTS:** A total of 407 students (56% black and 52% female; mean age: 16 years) participated. Kickin' Butts participants were no more likely to quit than control subjects. In the conservative analysis (students with missing follow-up data classified as smokers), NOT participants were 1.92 times (95% confidence interval [CI]: 1.09-3.40 times) more likely to self-report quitting at 1 month. In the Bayesian analysis (missing follow-up data imputed by using all available data), NOT participants were significantly more likely than control subjects to self-report quitting at EOP (relative risk [RR]: 1.26 [95% CI: 1.10-1.43]), 1 month (RR: 2.07 [95% CI: 1.68-2.56]), and 12 months (RR: 1.58 [95% CI: 1.22- 2.04]). Cotinine-confirmed quit rates were significantly greater among NOT participants, compared with control subjects, at EOP and 1 month. **CONCLUSIONS:** The reformatted NOT program had a modest effect on adolescents interested in quitting. Kickin' Butts, as reformatted for this project, did not have any effect on quit rates. Copyright 2009, American Academy of Pediatrics.

Altered white matter integrity in adolescent binge drinkers.

McQueeny T; Schweinsburg BC; Schweinsburg AD; Jacobus J; Bava S; Frank LR et al. *Alcoholism: Clinical and Experimental Research* 33(7): 1278-1285, 2009. (64 refs.)

Background: White matter integrity has been found to be compromised in adult alcoholics, but it is unclear when in the course of alcohol exposure white matter abnormalities become apparent. This study assessed microstructural white matter integrity among adolescent binge drinkers with no history of an alcohol use disorder. **Methods:** We used diffusion tensor imaging to examine fractional anisotropy (FA), a measure of directional coherence of white matter tracts, among teens with (n = 14) and without (n = 14) histories of binge drinking but no history of alcohol use disorder, matched on age, gender, and education. **Results:** Binge drinkers had lower FA than controls in 18 white matter areas (clusters \geq 27 contiguous

voxels, each with $p < 0.01$) throughout the brain, including the corpus callosum, superior longitudinal fasciculus, corona radiata, internal and external capsules, and commissural, limbic, brainstem, and cortical projection fibers, while exhibiting no areas of higher FA. Among binge drinkers, lower FA in 6 of these regions was linked to significantly greater lifetime hangover symptoms and/or higher estimated peak blood alcohol concentrations. **Conclusions:** Binge drinking adolescents demonstrated widespread reductions of FA in major white matter pathways. Although preliminary, these results could indicate that infrequent exposure to large doses of alcohol during youth may compromise white matter fiber coherence. Copyright 2009, Research Society on Alcoholism.

Mass media for smoking cessation in adolescents.

Solomon LJ; Bunn JY; Flynn BS; Pirie PL; Worden JK; Ashikaga T. *Health Education & Behavior* 36(4): 642-659, 2009. (36 refs.)

Theory-driven, mass media interventions prevent smoking among youth. This study examined effects of a media campaign on adolescent smoking cessation. Four matched pairs of media markets in four states were randomized to receive or not receive a 3-year television/radio campaign aimed at adolescent smoking cessation based on social cognitive theory. The authors enrolled 2,030 adolescent smokers into the cohort (n = 987 experimental; n = 1,043 comparison) and assessed them via annual telephone surveys for 3 years. Although the condition by time interaction was not significant, the proportion of adolescents smoking in the past month was significantly lower in the experimental than comparison condition at 3-year follow-up when adjusted for baseline smoking status. The media campaign did not impact targeted mediating variables. A media campaign based on social cognitive constructs produced a modest overall effect on smoking prevalence among adolescents, but the role of theory-based constructs is unclear. Copyright 2009, Sage Publications.

Motives for nonmedical use of prescription opioids among high school seniors in the United States: Self-treatment and beyond.

McCabe SE; Boyd CJ; Cranford JA; Teter CJ. *Archives of Pediatrics & Adolescent Medicine* 163(8): 739-744, 2009. (25 refs.)

Objectives: To assess motives for nonmedical use of prescription opioids among US high school seniors and examine associations between motives for nonmedical use and other substance use behaviors. **Design:** Nationally representative samples of US high

school seniors (modal age 18 years) were surveyed during the spring of their senior year via self-administered questionnaires. Setting: Data were collected in public and private high schools. Participants: The sample consisted of 5 cohorts (2002-2006) of 12441 high school seniors. Main Outcome Measures: Self-reports of motives for nonmedical use of prescription opioids and substance use behaviors. Results: More than 1 in every 10 high school seniors reported nonmedical use of prescription opioids and 45% of past-year nonmedical users reported "to relieve physical pain" as an important motivation. The odds of heavy drinking and other drug use were lower among nonmedical users of prescription opioids motivated only by pain relief compared with nonmedical users who reported pain relief and other motives and those who reported non-pain relief motives only. The odds of medical use of prescription opioids were lower among nonmedical users who reported only non-pain relief motives compared with other types of nonmedical users. Conclusions: The findings indicate motives should be considered when working with adolescents who report nonmedical use of prescription opioids. Future efforts are needed to identify adolescents who may need appropriate pain management and those at increased risk for prescription opioid abuse. Copyright 2009, American Medical Association.

Mountain Dew(R) or Mountain Don't?: A pilot investigation of caffeine use parameters and relations to depression and anxiety symptoms in 5th-and 10th-grade students.

Luebke AM; Bell DJ. *Journal of School Health* 79(8): 380-387, 2009. (39 refs.)

BACKGROUND: Caffeine, the only licit psychoactive drug available to minors, may have a harmful impact on students' health and adjustment, yet little is known about its use or effects on students, especially from a developmental perspective. Caffeine use in 5th- and 10th-grade students was examined in a cross-sectional design, and relations and potential mediators of caffeine use to depression and anxiety symptoms were investigated. METHODS: Children (n = 135) and adolescents (n = 79) completed a measure of naturalistic use of caffeinated and noncaffeinated beverages. Furthermore, daily availability, perceived benefits, and stimulating, psychological, and withdrawal effects of caffeinated and noncaffeinated beverages were assessed. Measures of depression and anxiety were also administered. RESULTS: Fifth and 10th graders used caffeine frequently. Depression was positively related to caffeine use for both cohorts,

though mediated by caffeine withdrawal effects. Surprisingly, anxiety was unrelated to use. Fifth graders reported less daily access to caffeine, but more psychological and stimulating effects of caffeine than 10th graders. CONCLUSIONS: Although both children and adolescents experience negative caffeine-related outcomes, intake is seemingly not greatly limited in either cohort. In particular, youth appear vulnerable to increased depressive symptoms with increasing caffeine consumption. Implications for school policy regarding students' caffeine use are discussed. Copyright 2009, Wiley-Blackwell Publishing.

Primary care follow-up plans for adolescents with substance use problems.

Hassan A; Harris SK; Sherritt L; Van Hook S; Brooks T; Carey P et al. *Pediatrics* 124(1): 144-150, 2009. (21 refs.)

OBJECTIVE: Primary care visits provide an opportunity to screen adolescents for substance use and offer early intervention, but little is known about follow-up plans. The objective of this study was to determine recommendations by PCPs and assess the relationship between their diagnostic impressions of substance use severity and plans for intervention. METHODS: Data were collected through a prospective observational study conducted at 7 primary care practices in New England. Patients aged 12 to 18 years completed an interview, which included socio-demographic characteristics and the CRAFFT substance abuse screen. PCPs received screen results, noted their diagnostic impression of participants' substance use severity, and recorded follow-up plans. Follow-up plans other than "periodic screening" alone were defined as "active intervention." We examined the relationship of provider impressions with follow-up recommendations by using the chi(2) test. RESULTS: For 2034 adolescents, PCPs recommended no plan for 369 patients, periodic screening for 1557 patients, a return visit for 98 patients, and referral to counseling for 44 patients. PCPs' diagnostic impressions identified 97 (4.8%) patients with problem use and 19 (0.01%) patients with abuse or dependence. Recommendations for active intervention were more likely with patients' higher severity of use. However, 1 in 5 patients thought to have problem use did not receive a recommendation for an active intervention. Parent notification was planned for only 13 patients. CONCLUSIONS: When concerned about substance use, PCPs recommend a return visit to their office more than twice as often as referral to counseling, and rarely planned to engage parents. PCPs need enhanced training and strategies for delivery of office-based

interventions. Copyright 2009, American Academy of Pediatrics.

Twelve-Step affiliation and 3-year substance use outcomes among adolescents: Social support and religious service attendance as potential mediators.

Chi FW; Kaskutas LA; Sterling S; Campbell CI; Weisner C. *Addiction* 104(6): 927-939, 2009. (78 refs.)
Twelve-Step affiliation among adolescents is little understood. We examined 12-Step affiliation and its association with substance use outcomes 3 years post-treatment intake among adolescents seeking chemical dependency (CD) treatment in a private, managed-care health plan. We also examined the effects of social support and religious service attendance on the relationship. We analyzed data for 357 adolescents, aged 13-18, who entered treatment at four Kaiser Permanente Northern California CD programs between March 2000 and May 2002 and completed both baseline and 3-year follow-up interviews. Measures at follow-up included alcohol and drug use, 12-Step affiliation, social support and frequency of religious service attendance. At 3 years, 68 adolescents (19%) reported attending any 12-Step meetings, and 49 (14%) reported involvement in at least one of seven 12-Step activities, in the previous 6 months. Multivariate logistic regression analyses indicated that after controlling individual and treatment factors, 12-Step attendance at 1 year was marginally significant, while 12-Step attendance at 3 years was associated with both alcohol and drug abstinence at 3 years [odds ratio (OR) 2.58, $P < 0.05$ and OR 2.53, $P < 0.05$, respectively]. Similarly, 12-Step activity involvement was associated significantly with 30-day alcohol and drug abstinence. There are possible mediating effects of social support and religious service attendance on the relationship between post-treatment 12-Step affiliation and 3-year outcomes. The findings suggest the importance of 12-Step affiliation in maintaining long-term recovery, and help to understand the mechanism through which it works among adolescents. Copyright 2009, Society for the Study of Addiction to Alcohol and Other Drugs.

Alcohol-related visits to the emergency department by injured adolescents: A national perspective.

Linakis JG; Chun TH; Mello MJ; Baird J. *Journal of Adolescent Health* 45(1): 84-90, 2009. (32 refs.)
Purpose: Alcohol use is a risk factor for injury in adolescents. Many injured adolescents require treatment in emergency departments (EDs). The present study was intended to explore this association between adolescent alcohol use and injury-related ED visits using the National Hospital Ambulatory Medical

Care Survey (NHAMCS), a nationally representative probability sample of visits to EDs. Methods: This was a retrospective, cross-sectional study using data from NHAMCS for 2001 through 2004. ED visits by injured adolescents aged 13-20 years whose visits were determined by NHAMCS coders to be related to alcohol were compared with visits by those whose visits were determined not related to alcohol. Specific variables of interest included demographic and medical characteristics of visits. Results: Our analyses indicated that there were several visit-related characteristics that were associated with alcohol-related ED visits, including time of visit, type of health insurance, and geographic location of the ED. Similarly, there were a number of patient-related characteristics that were also associated with alcohol-related visits to the ED, including patient acuity and injury intentionality. Conclusions: Our findings suggest that injured adolescents are more likely to present to the ED with an alcohol-related visit during the early hours of the morning, that the injury is more likely to be assault related and of higher acuity than non-alcohol-related visits. These findings suggest the ED as a potential site for alcohol prevention interventions with younger adolescents. However, these interventions will need to take into account when such adolescents will present to the ED and will need also to recognize that factors such as violence and aggression, in addition to alcohol use, may be important issues to address in the intervention. Copyright 2009, Society for Adolescent Medicine.

Three-year chemical dependency and mental health treatment outcomes among adolescents: The role of continuing care.

Sterling S; Chi F; Campbell C; Weisner C. *Alcoholism: Clinical and Experimental Research* 33(8): 1417-1429, 2009. (92 refs.)
Background: Few studies have examined the effects of treatment factors, including the types of services [chemical dependency (CD), psychiatric, or both], on long-term outcomes among adolescents following CD treatment, and whether receiving continuing care may contribute to better outcomes. This study examines the effect of the index CD and ongoing CD and psychiatric treatment episodes, 12-step participation, and individual characteristics such as CD and mental health (MH) severity and gender, age, and ethnicity, on 3-year CD and MH outcomes. Methods: Participants were 296 adolescents aged 13 to 18 seeking treatment at 4 CD programs of a nonprofit, managed care, integrated health system. We surveyed participants at intake, 1 year, and 3 years, and examined survey and administrative data, and CD and

psychiatric utilization. Results: At 3 years, 29.7% of the sample reported total abstinence from both alcohol and drugs (excluding tobacco). Compared with girls, boys had only half the odds of being abstinent (OR = 0.46, $p = 0.0204$). Gender also predicted Externalizing severity at 3 years (coefficients 18.42 vs. 14.77, $p < 0.01$). CD treatment readmission in the second and third follow-up years was related to abstinence at 3 years (OR = 0.24, $p = 0.0066$ and OR = 3.33, $p = 0.0207$, respectively). Abstinence at 1 year predicted abstinence at 3 years (OR = 4.11, $p < 0.0001$). Those who were abstinent at 1 year also had better MH outcomes (both lower Internalizing and Externalizing scores) than those who were not (11.75 vs. 15.55, $p = 0.0012$ and 15.13 vs. 18.06, $p = 0.0179$, respectively). Conclusions: A CD treatment episode resulting in good 1-year CD outcomes may contribute significantly to both CD and MH outcomes 3 years later. The findings also point to the value of providing a continuing care model of treatment for adolescents. Copyright 2009, Research Society on Alcoholism.

Smoking cessation services in adolescent substance abuse treatment: Opportunities missed?

Knudsen HK. *Journal of Drug Issues* 39(2): 257-276, 2009. (54 refs.)

The majority of adolescents receiving substance abuse treatment also use tobacco, yet there are few data regarding the adoption of tobacco use assessment and smoking cessation services by adolescent treatment programs. Using data from a national sample of adolescent-only treatment programs ($n = 154$), this research measures the adoption of aspects of assessment and treatment from the Public Health Service's (2000) guideline, Treating Tobacco Use and Dependence. When adoption of four intake/assessment practices was measured, adoption appeared high, but only 45% of programs had adopted all four practices. About 43% of programs offered some type of smoking

cessation services. However, there was no association between adoption of intake procedures and the odds of availability of smoking cessation services, suggesting a lack of connection between the identification of treatment needs and the availability of services. The lack of smoking cessation services may represent a missed opportunity for early intervention with this population. Copyright 2009, Journal of Drug Issues, Inc.

Adolescent medical providers willingness to recommend genetic susceptibility testing for nicotine addiction and lung cancer risk to adolescents.

O'Neill SC; Luta G; Peshkin BN; Abraham A; Walker LR; Tercyak KP. *Journal of Pediatric Psychology* 34(6): 617-626, 2009. (50 refs.)

Objective: To examine the influences of disease, lifestyle, and other factors on adolescent medical providers willingness to recommend genetic susceptibility testing (GST). Method: Providers attending a national conference completed a self-report survey ($n = 232$) about their willingness to recommend hypothetical GSTs, differentiated by disease (nicotine addiction/lung cancer), patient lifestyle (nonsmoker/smoker), and other contextual factors. Results Compared to recommending GST unconditionally, providers were more willing to recommend GST with parental/patient consent/assent, and in the presence of a preexisting illness and substance abuse history. Compared to offering nicotine addiction GST to a nonsmoker, providers were more willing to offer this type of testing to a smoker and were more willing to offer GST for lung cancer regardless of patient lifestyle. Conclusions: Providers willingness to recommend GSTs is sensitive to many factors. Efforts to integrate GST into adolescent preventive care likely will need to address these and other influences on provider behavior. Copyright 2009, Oxford University Press.