

The need for speed: An update on methamphetamine addiction. (review).

Barr AM; Panenka WJ; MacEwan W; Thornton AE; Lang DJ; Honer WG; Lecomte T. *Journal of Psychiatry & Neuroscience* 31(5): 301-313, 2006. (159 refs.)

The psychostimulant methamphetamine (MA) is a highly addictive drug that has surged in popularity over the last decade in North America. A burgeoning number of clandestine drug laboratories has led to dramatic increases in MA production, which have resulted in significant public health, legal and environmental problems. Current evidence indicates that exposure to MA is neurotoxic, and neuroimaging studies confirm that long-term use in humans may lead to extensive neural damage. These physiological changes are commonly associated with persistent forms of cognitive impairment, including deficits in attention, memory and executive function. In the present review, we provide a comprehensive description of the factors relating to MA use and the major health-related consequences, with an emphasis on MA-induced psychosis. It is hoped that increased knowledge of MA abuse will provide the basis for future treatment strategies. Copyright 2006, CMA Media Inc.

How the quality of peer relationships influences college alcohol use. (review).

Borsari B; Carey KB. *Drug and Alcohol Review* 25(4): 361-370, 2006. (132 refs.)

Peer relationships are consistently linked to alcohol use in college students. However, this disparate literature often reveals contradictory findings regarding the precise mechanisms of peer influence. In this review, we use an organisational framework based on social learning theory (SLT) to demonstrate how the quality of peer relationships may influence personal alcohol use. We propose that the quality of peer relationships enhance the influence of social reinforcement, modelling and cognitive processes on personal alcohol use. Research indicates that the quality of peer relationships influences drinking via three pathways: the lack or breakdown of quality peer relationships, alcohol use being an integral part of peer interactions, and if peers disapprove of alcohol use or do not drink. This conceptualisation of peer influence

informs the consistent finding of gender differences in college student drinking. Limitations of the reviewed research include reliance on cross-sectional surveys, self-report and homogeneous populations. Future directions for research on quality peer relationships involve detailed longitudinal assessment and the application of advanced statistical methods. Copyright 2006, Taylor & Francis.

Expanding research on the role of alcohol consumption and related risks in the prevention and treatment of HIV/AIDS. (review).

Bryant KJ. *Substance Use & Misuse* 41(10-12): 1465-1507, 2006. (257 refs.)

This article is a review of some of the major epidemiological, behavioral, biological, and integrative prevention research issues and priorities in the area of HIV/AIDS and alcohol consumption. Drinking alcohol increases both the risk for infection with HIV and related illnesses and the morbidity and mortality of patients who progress to AIDS. New and improved measurement procedures have helped in assessment of the complex patterns of alcohol use, identification of intervening explanatory mechanisms for risk behaviors and contexts, and determination of intervention outcomes. Both the direct and indirect effects of alcohol misuse appear to be major contributors to both the risk for infection with HIV and the transmission of HIV/AIDS at the individual and population levels. There is increasing evidence that perhaps no level of alcohol consumption is "safe" for those who are HIV infected and receiving antiretroviral treatment. Interdisciplinary basic behavioral and biomedical research is needed to develop comprehensive culturally appropriate strategies for programs that can be effectively delivered in community contexts in the United States and abroad and that focus on the integration of our understanding of individual behaviors, high-risk group membership, biological mechanisms, and the social and physical environments that place individuals at risk for HIV infection. High-priority topics include improving adherence to antiretroviral medications, prevention of infection in young minority women in the United States, and treatment of HIV+ pregnant women who are alcohol abusers to prevent adverse fetal outcomes, which is an international focus in

under-resourced settings in Africa. Copyright 2006, Taylor & Francis.

Cytisine for smoking cessation: A literature review and a meta-analysis. (review).

Etter JF. *Archives of Internal Medicine* 166(15): 1553-1559, 2006. (42 refs.)

Background: Cytisine is an agonist of nicotinic receptors; in particular, it binds strongly with alpha(4)beta(2) nicotinic receptors. Cytisine has been used to treat tobacco dependence for 40 years in Eastern Europe. The objective of this study was to review the literature on the effect of cytisine on smoking cessation. Methods: Review of PubMed, EMBASE, Psychological Abstracts, BIOSIS, Google.com, and Scholar.google.com, using the keywords cytisine, cytisin, zytisin, cytisinum, Tabex, and smoking cessation. Experts and the manufacturer of Tabex were contacted. Placebo-controlled trials were included in a meta-analysis. Results: Ten studies reported the effects of cytisine on smoking cessation, including 4 controlled studies (3 placebo controlled). Nine studies used the Bulgarian drug Tabex, containing 1.5 mg of cytisine per tablet, and one Russian study used buccal films containing either 1.5 mg of cytisine or 0.75 mg of cytisine plus 0.75 mg of anabesine. All studies were published between 1967 and 2005 in Bulgaria, Germany, Poland, and Russia. There were 4404 smokers treated with cytisine and 3518 in control conditions. The pooled odds ratio after 3 to 8 weeks in the 3 placebo-controlled trials (2 were double blind and 1 was randomized) was 1.93 (95% confidence interval, 1.21-3.06). For the 2 placebo-controlled double-blind trials with a longer follow-up, the pooled odds ratio after 3 to 6 months was 1.83 (95% confidence interval, 1.122.99). One placebo-controlled double-blind trial had follow-up after 2 years (odds ratio, 1.77; 95% confidence interval, 1.29-2.43). Some adverse effects were reported. Most trials were, however, of poor quality. Conclusions: Cytisine may be effective for smoking cessation. This fact remained largely unnoticed in the English-language literature. Copyright 2006, American Medical Association.

The impact of alcohol, tobacco, and other drug use and abuse in the emergency department. (review).

D'Onofrio G; Becker B; Woolard RH. *Emergency Medicine Clinics of North America* 24(4): 925+, 2006. (171 refs.)

Substance abuse is a major preventable public health problem affecting all racial, cultural, and socioeconomic groups with the total annual economic costs to the United States currently estimated at over \$414 billion [1]. Over 500,000 deaths annually are

attributable to alcohol, tobacco, or illicit drug use: 107,000 related to alcohol [2], 25,000 to illicit drugs [2], and 435,000 to tobacco [3]. Substance abuse is a risk factor for multiple diseases and a major risk factor for injury [4]. Tobacco use, especially cigarette smoking, is the leading cause of preventable disease and a major risk factor for heart disease, stroke, lung cancer, and chronic lung diseases [5]. It is responsible for more than 30% of all cancer deaths each year [6]. An estimated 18 million people have alcohol abuse problems, whereas an additional 5 million abuse other drugs [7]. Less than 3% of people with alcohol problems and fewer than 10% with drug problems receive treatment, despite the fact that substance abuse treatment has been demonstrated to be effective in reducing use and costs associated with substance abuse [8]. The consequences of substance abuse affect not only individuals, but also families, workplaces, and communities. Copyright 2006, WB Saunders.

Drug interactions between psychoactive substances and antiretroviral therapy in individuals infected with human immunodeficiency and hepatitis viruses. (review).

Neuman MG; Monteiro M; Rehm J. *Substance Use & Misuse* 41(10-12): 1395-1463, 2006. (412 refs.)

The liver disease characteristic of alcohol dependence encompasses three main related entities: steatosis, alcoholic hepatitis, and cirrhosis. Alcoholic cirrhosis is a leading cause of global morbidity and mortality. Alcohol intake among injecting drug users is a major contributor to transmission of viral infections, such as human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C viruses (HCV). HIV and HCV coinfecting patients develop liver diseases earlier and more severely than the monoinfected individuals, including hepatocellular carcinoma. Interactions exist between the therapeutic drugs used to minimize and control the drug and alcohol dependence. Furthermore, drug-drug interactions occur between the highly active antiretroviral therapy (HAART) and alcohol, different HAART components and methadone, or each one of the therapies with the other, thus contributing to a higher toxicity level. With the evolution of effective antiretroviral therapy, survival of persons with HIV, and the syndrome it causes, acquired immunodeficiency syndrome (AIDS) has increased dramatically. Drug-drug interactions may appear between alcohol and anti-HBV or anti-HCV, therapy in the presence or absence of anti-HIV therapy. Several other medical-, social-, and drug-related factors of this population have to be considered when providing HAART. Because many coinfecting patients also have problems with substance use, dealing with

their drug dependence is an important first step in an attempt to improve adherence to and tolerance of antiviral therapy. It is necessary to minimize the risk of liver disease acceleration and/or reinfection with hepatitis viruses. Knowledge of potential drug interactions between methadone, antiretroviral therapy, psychoactive drugs, and antipsychotics and the role of coinfection with HBV or HCV and the drugs used in eradicating viral hepatitis permits suitable antiretroviral combinations. Copyright 2006, Taylor & Francis.

Buprenorphine-containing treatments: Place in the management of opioid addiction. (review).

Robinson SE. *CNS Drugs* 20(9): 697-712, 2006. (154 refs.)

Although the synthetic opioid buprenorphine has been available clinically for almost 30 years, its use has only recently become much more widespread for the treatment of opioid addiction. The pharmacodynamic and pharmacokinetic profiles of buprenorphine make it unique in the armamentarium of drugs for the treatment of opioid addiction. Buprenorphine has partial μ -opioid receptor agonist activity and is a kappa-opioid receptor antagonist; hence, it can substitute for other μ -opioid receptor agonists, yet is less apt to produce overdose reactions or dysphoria. On the other hand, buprenorphine can block the effects of opioids such as heroin (diamorphine) and morphine, and can even precipitate withdrawal in individuals physically dependent upon these drugs. Buprenorphine has significant sublingual bioavailability and a long half-life, making administration on a less than daily basis possible. Furthermore, its discontinuation is associated with only a mild withdrawal syndrome. Clinical trials have demonstrated that sublingual buprenorphine is effective in both maintenance therapy and detoxification of individuals addicted to opioids. The introduction of a sublingual formulation combining naloxone with buprenorphine further reduces the risk of diversion to illicit intravenous use. Because of its relative safety and lower risk of illegal diversion, buprenorphine has been made available in several countries for treating opioid addiction in the private office setting, greatly enhancing treatment options for this condition. Copyright 2006, Adis International.

Evidenced-based treatment of opioid-dependent patients. (review).

van den Brink W; Haasen C. *Canadian Journal of Psychiatry* 51(10): 635-646, 2006. (145 refs.)

Objective: To provide an overview of treatment options for opioid-dependent patients. Method: We

screened all published studies on the treatment of opioid dependence, with a special focus on systematic literature reviews, formal metaanalyses, and recent trials. Results: Both clinical experience and neurobiological evidence indicate that opioid dependence is a chronic relapsing disorder. Treatment objectives depend on the pursued goals: crisis intervention, abstinence-oriented treatment (detoxification and relapse prevention), or agonist maintenance treatment. The high quality of solid evidence in the literature demonstrates that there are numerous effective interventions available for the treatment of opioid dependence. Crisis intervention, frequently necessary owing to the high overdose rate, can be effectively handled with naloxone. Abstinence-oriented interventions are effective for only a few motivated patients with stable living conditions and adequate social support. Agonist maintenance treatment is considered the first line of treatment for opioid dependence. Numerous studies have shown efficacy for methadone and buprenorphine treatment, while maintenance with other agonists is also becoming available to a greater extent. Maintenance treatment with diamorphine should be made available for the small group of treatment-resistant, severely dependent addicts. Other harm-reduction measures can serve to engage individuals with opioid addiction who are not in treatment. Conclusion: Opioid dependence is a chronic relapsing disease that is difficult to cure, but effective treatments are available to stabilize patients and reduce harm, thereby increasing life expectancy and quality of life. Copyright 2006, Canadian Psychiatric Association.

Preventing alcohol-exposed pregnancies. (review).

Mengel MB; Searight HR; Cook K. *Journal of the American Board of Family Medicine* 19(5): 494-505, 2006. (103 refs.)

Fetal alcohol exposure affects approximately 1% to 3% of live births in the United States. Family physicians are in a unique position to reduce the incidence of alcohol-exposed pregnancy. Fetal alcohol exposure can be minimized through 2 general approaches: reducing alcohol consumption or increasing effective contraception among childbearing-aged women who engage in "at-risk" drinking and encouraging pregnant women to abstain from alcohol. Although no safe level of alcohol consumption during pregnancy is established, women who binge drink are more likely to deliver infants with physical and cognitive-developmental anomalies. Screening tools, such as quantity/frequency questions, the TWEAK and the T-ACE, developed specifically for prenatal care, are more useful with women than the

CAGE and Michigan Alcohol Screening Test (MAST). Screening alone seems to reduce alcohol use among pregnant women. Brief interventions, including education about alcohol's effects on the developing fetus, are effective among women not responding to screening. Unfortunately, many barriers exist to effective implementation of alcohol-exposed pregnancy (AEP) prevention in the clinical setting. Designing effective office base systems so the entire burden of implementing AEP prevention activities doesn't fall solely on the family physician is critical. Copyright 2006, American Board of Family Medicine.

The acute effects of cannabinoids on memory in humans: A review. (review).

Ranganathan M; D'Souza DC. *Psychopharmacology* 188(4): 425-444, 2006. (135 refs.)

Rationale Cannabis is one of the most frequently used substances. Cannabis and its constituent cannabinoids are known to impair several aspects of cognitive function, with the most robust effects on short-term episodic and working memory in humans. A large body of the work in this area occurred in the 1970s before the discovery of cannabinoid receptors. Recent advances in the knowledge of cannabinoid receptors' function have rekindled interest in examining effects of exogenous cannabinoids on memory and in understanding the mechanism of these effects. **Objective** The literature about the acute effects of cannabinoids on memory tasks in humans is reviewed. The limitations of the human literature including issues of dose, route of administration, small sample sizes, sample selection, effects of other drug use, tolerance and dependence to cannabinoids, and the timing and sensitivity of psychological tests are discussed. Finally, the human literature is discussed against the backdrop of preclinical findings. **Results** Acute administration of Delta-9-THC transiently impairs immediate and delayed free recall of information presented after, but not before, drug administration in a dose- and delay-dependent manner. In particular, cannabinoids increase intrusion errors. These effects are more robust with the inhaled and intravenous route and correspond to peak drug levels.

Conclusions This profile of effects suggests that cannabinoids impair all stages of memory including encoding, consolidation, and retrieval. Several mechanisms, including effects on long-term potentiation and long-term depression and the inhibition of neurotransmitter (GABA, glutamate, acetyl choline, dopamine) release, have been implicated in the amnesic effects of cannabinoids. Future research in humans is necessary to characterize the neuroanatomical and neurochemical basis of the memory impairing effects of cannabinoids, to dissect out their effects on the various stages of memory and to bridge the expanding gap between the humans and preclinical literature. Copyright 2006, Springer.

Prenatal drug exposure effects on subsequent vulnerability to drug abuse. (review).

Glantz MD; Chambers JC. *Development and Psychopathology* 18(3): 893-922, 2006. (253 refs.)

Research has shown that both prenatal alcohol and tobacco exposure are associated with increased risk of significant adverse medical, developmental, and behavioral outcomes including substance abuse. Research on the outcomes of prenatal exposure to illicit drugs (PNDE) has also found increased physical and behavioral problems for gestationally drug-exposed children. However, a clear picture has not emerged on whether the consequences of PNDE are independent from those associated with having a substance abusing parent and whether PNDE increases vulnerability to drug abuse. Because of its typical co-occurrence with factors inherent in having a drug-abusing parent, PNDE is at least a marker of significant increased risk for a range of negative outcomes including greater vulnerability to substance abuse. Although a review of the relevant research literatures indicates that the direct consequences of PNDE appear to be generally both subtle and nonglobal, PNDE does appear to have negative developmental and behavioral outcomes, and there is evidence that it is a modest direct contributor to increased substance abuse vulnerability. Copyright 2006, Cambridge University Press.