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substance abuse review articles

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Patients with addiction and personality disorder: Treatment outcomes and clinical implications. (review).

van den Bosch LMC; Verheul R. *Current Opinion in Psychiatry* 20(1): 67-71, 2007. (36 refs.)

Purpose of review: The present review examines the outcomes of treatments focusing on substance abuse, on personality disorders, and on both the foci simultaneously. Clinical guidelines for the treatment of dually diagnosed patients are described. Recent findings: Recent studies continued the tradition of examining the importance of factors such as the chronicity of substance abuse and the impact of sex with regard to the prognosis of the treatment of substance abuse and the development of effective treatment programs. Overall, the multifaceted and risky nature of dual problems is stressed, and as a logical consequence, an early detection of dual problems is promoted. Several studies show the risk of suicidal and harmful behavior associated with this population, even when the treatment for substance abuse has been successful. For the first time, the issue of dropout is studied from the client's perspective. Summary: Knowledge about the effectiveness of dually focused treatments is emerging. Results show that the treatment of dually diagnosed patients with severe problems needs to include both the foci because it leads to enormous gains for the patients when personality disorders are also addressed. Yet, integrated treatment programs are lacking and research is still too limited.

Black tea - helpful or harmful? A review of the evidence. (review).

Gardner EJ; Ruxton CHS; Leeds AR. *European Journal of Clinical Nutrition* 61(1): 3-18, 2007. (123 refs.)

Objective: To consider whether consumption of black tea has a positive or negative impact on health. Design: Databases were searched for relevant epidemiological and clinical studies published between 1990 and 2004. Results: Clear evidence was found for coronary heart disease (CHD), where an intake of >= 3 cups per day related to risk reduction. The mechanism could involve the antioxidant action of tea polyphenols. While experimental models have suggested that flavonoids attenuated cancer risk, epidemiological studies failed to demonstrate a clear effect for tea, although there is moderate evidence for a slightly positive or no effect of black tea consumption on colorectal cancer. Studies on cancer were limited by sample sizes and insufficient control of confounders. There is moderate evidence suggestive of a positive effect of black tea consumption on bone mineral density although studies were few. There is little evidence to support the effect of tea on dental plaque inhibition but evidence to support the contribution of tea to fluoride intakes and thus theoretical protection against caries. There was no credible evidence that black tea (in amounts typically consumed) was harmful. Normal hydration was consistent with tea consumption when the caffeine content was < 250mg per cup. A moderate caffeine intake from tea appeared to improve mental performance, although sample sizes were small. There was no evidence that iron status could be harmed by tea drinking unless populations were already at risk from anaemia. Conclusions: There was sufficient evidence to show risk reduction for CHD at intakes of >= 3 cups per day and for improved antioxidant status at intakes of one to six cups per day. A maximum intake of eight cups per day would minimise any risk relating to excess caffeine consumption. Black tea generally had a positive effect on health. Sponsorship: The Tea Council. The authors confirm that the sponsors played no role in the writing of this review.

Psychopathological development across adolescence. (review)

Rutter M. *Journal of Youth and Adolescence* 36(1): 101-110, 2007. (53 refs.)

Daniel Offer's seminal writings in the 1960s led to a realization that normal adolescence was not characterized by turmoil and upheaval, the then prevailing view that derived from studies of clinical samples. In this paper, the research findings that have appeared over the last four decades are reviewed with respect to the overall features of adolescence, the psychopathological changes in the teenage years, brain development during adolescence and neuroendocrine changes. The possible pathways involved in adolescent transitions are considered with respect to depression, drug use/abuse, antisocial behavior, schizophrenia and suicidal behavior. Conclusions are drawn on the

operation of a range of multi-step causal pathways and implications for policy and practice are discussed.

Management of the newborn infant affected by maternal opiates and other drugs of dependency. (review).

Oei J; Lui K. *Journal of Paediatrics and Child Health* 43(1-2): 9-18, 2007. (126 refs.)

Illicit drug use during pregnancy is common and probably underestimated in the majority of published studies. The infant exposed to opiates or other drugs of dependency during intrauterine development is at risk for post-natal withdrawal as well as to long-term problems that are associated with drug-effects and often, adverse social circumstances. This article examines the early management of the infant and mother for detection and monitoring of drug-exposure, pharmacological intervention for withdrawal and the management of associated, particularly infective and psychosocial, problems. Practical concerns surrounding these issues are discussed and further research on psychosocial intervention to improve long-term outcome are much needed.

Interpreting results of ethanol analysis in postmortem specimens: A review of the literature. (review).

Kugelberg FC; Jones AW. *Forensic Science International* 165(1): 10-29, 2007. (323 refs.)

We searched the scientific literature for articles dealing with postmortem aspects of ethanol and problems associated with making a correct interpretation of the results. A person's blood-alcohol concentration (BAC) and state of inebriation at the time of death is not always easy to establish owing to various postmortem artifacts. The possibility of alcohol being produced in the body after death, e.g. via microbial contamination and fermentation is a recurring issue in routine casework. If ethanol remains unabsorbed in the stomach at the time of death, this raises the possibility of continued local diffusion into surrounding tissues and central blood after death. Skull trauma often renders a person unconscious for several hours before death, during which time the BAC continues to decrease owing to metabolism in the liver. Under these circumstances blood from an intracerebral or subdural clot is a useful specimen for determination of ethanol. Bodies recovered from water are particular problematic to deal with owing to possible dilution of body fluids, decomposition, and enhanced risk of microbial synthesis of ethanol. The relationship between blood and urine-ethanol concentrations has been extensively investigated in autopsy specimens and the urine/blood concentration ratio might give a clue about the stage of alcohol absorption and distribution at the time of death. Owing to extensive abdominal trauma in aviation disasters (e.g. rupture of the viscera), interpretation of BAC in autopsy specimens from the pilot and crew is highly contentious and great care is needed to reach valid conclusions. Vitreous humor is strongly recommended as a body fluid for determination of ethanol in postmortem toxicology to help establish whether the deceased had consumed ethanol before death. Less common autopsy specimens submitted for analysis include bile, bone marrow, brain, testicle, muscle tissue, liver, synovial and cerebrospinal fluids. Some investigators recommend measuring the water content of autopsy blood and if necessary correcting the concentration of ethanol to a mean value of 80% w/w, which corresponds to fresh whole blood. Alcoholics often die at home with zero or low BAC and nothing more remarkable at autopsy than a fatty liver. Increasing evidence suggests that such deaths might be caused by a pronounced ketoacidosis. Recent research has focused on developing various biochemical tests or markers of postmortem synthesis of ethanol. These include the urinary metabolites of serotonin and non-oxidative metabolites of ethanol, such as ethyl glucuronide, phosphatidylethanol and fatty acid ethyl esters. This literature review will hopefully be a good starting point for those who are contemplating a fresh investigation into some aspect of postmortem alcohol analysis and toxicology.

Parental alcohol consumption and childhood cancers: A review. (review).

Infante-Rivard C; El-Zein M. *Journal of Toxicology and Environmental Health. Part B, Critical Reviews* 10(1-2): 101-129, 2007. (79 refs.)

The etiology of childhood cancers remains generally unknown. Given that the metabolites of alcohol are likely carcinogens and that leukemia, the most frequent childhood cancer, can arise in utero, the study of alcohol consumption as a potential risk factor for the development of childhood cancer is justified. This article summarizes the epidemiological evidence on the association between parental exposure to alcohol and the risk of childhood cancers. To do this, a thorough search of the literature from 1960 to 2003 using the PubMed database was carried out. It yielded 33 case-control studies published between 1982 and 2003, including 13 studies that considered paternal exposure in the preconceptional period. In 10 of the 33 studies at least 1 statistically significant risk increase was reported in relation with parental alcohol

consumption; in 7 of these studies the increase was related to maternal consumption, whereas in 3 studies, it was related to paternal consumption. The cancers most often found associated with parental drinking were leukemia, brain tumors, and neuroblastoma. A few studies also reported a protective effect with maternal exposure at modest levels. Inconsistencies in the results and the low risks reported do not suggest an association between childhood cancer and parental consumption of alcohol. However, before reaching any definitive conclusions, methodological issues need to be addressed in future studies, as well as the role of genetic susceptibility. Moreover, subtypes of specific cancers need to be studied separately.

Opioid maintenance: A comparative review of pharmacological strategies. (review.

Expert Opinion on Pharmacotherapy 8(1): 1-11, 2007. (100 refs.)

The use of opioids outside of medical practice is a significant health problem with important social and political implications. Although treatment of opioid dependence is traditionally focused on heroin users, there is increasing recognition that a large number of people become dependent through the use of prescription opioids. The necessity for long-term treatment has also been increasingly recognised. At present, there are several pharmacotherapies available for maintenance treatment, including drugs that are full agonists at the opioid receptor (e.g., methadone, slow-release oral morphine), a partial agonist (buprenorphine) and an opioid antagonist (naltrexone). This review examines the existing strategies, highlights problems associated with their use and discusses the opportunities for new treatment approaches, particularly the use of long-acting formulations.

Genetics of dopamine and its contribution to cocaine addiction. (review).

Haile CN; Kosten TR; Kosten TA. *Behavior Genetics* 37(1): 119-145, 2007. (312 refs.)

Cocaine addiction is a major health and social problem for which there are presently no effective pharmacotherapies. Many of the most promising medications target dopamine based on the large literature that supports its role in addiction. Recent studies show that genetic factors are also important. Rodent models and gene knock-out technology have helped elucidate the involvement of specific genes in the function of the dopamine reward system and intracellular cascades that lead to neuronal changes in this system. Human epidemiological, linkage, and association studies have identified allelic variants (polymorphisms) that give rise to altered metabolism of dopamine and its functional consequences. Individuals with these polymorphisms respond differently to psychostimulants and possibly to pharmacotherapies. Here we review the literature on genetic variations that affect dopamine neurotransmission, responses to psychostimulants and potential treatments for cocaine addiction. Behavioral responses to psychostimulants in animals with different or modified genetics in dopamine signaling are discussed. We also review polymorphisms in humans that affect dopaminergic neurotransmission and alter the subjective effects of psychostimulants. Pharmacotherapies may have increased efficacy when targeted to individuals possessing specific genetic polymophisms in dopamine's metabolic and intracellular messenger systems.

Substance abuse treatment entry, retention, and outcome in women: A review of the literature. (review).

Greenfield SF; Brooks AJ; Gordon SM; Green CA; Kropp F; McHugh RK et al. *Drug and Alcohol Dependence* 86(1): 1-21, 2007. (217 refs.)

This paper reviews the literature examining characteristics associated with treatment outcome in women with substance use disorders. A search of the English language literature from 1975 to 2005 using Medline and PsycInfo databases found 280 relevant articles. Ninety percent of the studies investigating gender differences in substance abuse treatment outcomes were published since 1990, and of those, over 40% were published since the year 2000. Only 11.8% of these studies were randomized clinical trials. A convergence of evidence suggests that women with substance use disorders are less likely, over the lifetime, to enter treatment compared to their male counterparts. Once in treatment, however, gender is not a significant predictor of treatment retention, completion, or outcome. Gender-specific predictors of outcome do exist, however, and individual characteristics and treatment approaches can differentially affect outcomes by gender. While women-only treatment is not necessarily more effective than mixed-gender treatment, some greater effectiveness has been demonstrated by treatments that address problems more common to substance-abusing women or that are designed for specific subgroups of this population. There is a need to develop and test effective treatments for specific subgroups such as older women with substance use disorders, as well as those with co-occurring substance use and psychiatric

disorders such as eating disorders. Future research on effectiveness and cost-effectiveness of gender-specific versus standard treatments, as well as identification of the characteristics of women and men who can benefit from mixed-gender versus single-gender treatments, would advance the field.

Alcohol intake and colorectal cancer risk: A dose-response meta-analysis of published cohort studies. (review).

Moskal A; Norat T; Ferrari P; Riboli E. *International Journal of Cancer* 120(3): 664-671, 2007. (44 refs.)

The epidemiologic evidence support that alcohol intake might be associated with increased colorectal cancer risk. However, the results by anatomic site in the large bowel are inconsistent. We conducted a meta-analysis of prospective cohort studies published between 1990 and June 2005 on the relationship between alcohol intake and colon and rectal cancer. We quantified associations with colon and rectal cancer using meta-analysis of relative risk (RR) associated to the highest versus the lowest category of alcohol intake and meta-analysis of study-specific dose-response slopes using fixed or random effect models depending on the heterogeneity of effects among studies. Sixteen prospective cohort studies including more than 6,300 patients with colorectal cancer were eligible for inclusion. High alcohol intake was significantly associated with increased risk of colon (RR = 1.50; 95% CI = 1.25, 1.79) and rectal cancer (RR = 1.63; 95% CI = 1.35, 1.97) when comparing the highest with the lowest category of alcohol intake, equivalent to a 15% increase of risk of colon or rectal cancer for an increase of 100 g of alcohol intake per week. The relationship did not differ significantly by anatomical site (colon, rectum). Using meta-regression analysis, we identified geographical area where the study was conducted as a possible source of between-study heterogeneity of effects among studies. Lifestyle recommendations for prevention of colorectal cancer should consider limiting alcohol intake.

Dopamine D-3 receptor ligands for the treatment of tobacco dependence.

Le Foll B; Goldberg SR; Sokoloff P. *Expert Opinion on Investigational Drugs* 16(1): 45-57, 2007. (116 refs)

This review considers the potential use of the dopamine D-3 receptor (DRD3) as a novel therapeutic target for the treatment of tobacco dependence. Among the 5 dopamine receptors identified, the DRD3 is located in the nucleus accumbens, ventral tegmental area and amygdala: 3 brain structures that are implicated in the motivational control of drug-seeking behaviour and drug-conditioning processes. Although it has been proposed that modulating dopamine transmission would be effective in the treatment of drug dependence, no validation has been provided in humans so far. Several highly selective DRD3 ligands have recently been evaluated in preclinical models of drug dependence. These ligands act as DRD3 antagonists in vivo and are able to decrease the motivation to take various drugs of abuse and reduce the influence of associated drug-conditioned behaviour. Of note is that these effects have been found with nicotine-seeking behaviour and nicotine relapse in rodents, suggesting a potential use of these ligands for the treatment of tobacco smokers. In contrast to nicotine replacement therapy, varenicline and bupropion (which are currently used for the treatment of smokers), DRD3 antagonists do not seem to produce nicotine-like effects in experimental animals and, therefore, may not substitute for nicotine or alleviate nicotine withdrawal symptoms in human smokers. This behavioural profile, which was also reported recently with cannabinoid CB, receptor antagonists, may result from effects on specific brain pathways that express DRD3 receptors and are involved in relapse and conditioning processes. These preclinical studies suggest that the clinical evaluation of DRD3 ligands should be performed with clinical trials designed specifically to evaluate the relapse phenomena.

Psychosocial approaches to psychostimulant dependence: A systematic review. (review).

Shearer J. *Journal of Substance Abuse Treatment* 32(1): 41-52, 2007. (126 refs.)

This review examines the nature and evidence for the effectiveness of psychosocial interventions for psychostimulant dependence. Psychostimulant dependence and related harms continue to increase in many parts of the world, while treatment responses are predominantly limited to psychosocial interventions. The effectiveness of psychosocial interventions is compromised by poor rates of treatment induction and retention. As with other substance use disorders, increasing the diversity of treatment options is likely to improve treatment coverage and outcomes across a broader range of users. Identifying medications that might enhance treatment induction and retention would also enhance the effectiveness of psychosocial programs. It is concluded that psychosocial interventions are moderately effective in reducing psychostimulant use and related harms among psychostimulant-dependent persons.