Library Watch on nicotine

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The cessation and detoxification effect of tea filters on cigarette smoke.
Yan JQ; Di XJ; Liu CY; Zhang HM; Huang XQ; Zhang JJ et al. *Science China: Life Sciences* 53(5): 533-541, 2010. (40 refs.)
To treat tobacco addiction, a tea filter was developed and studied for smoking cessation. This work reports the smoking cessation effect of tea when it was used as a component of cigarette filters. In one trial it was found that after using the tea filters for 2 months, the volunteer smokers decreased their cigarette consumption by 56.5%, and 31.7% of them stopped smoking. This work identified a new method and material, tea filter and theanine, which inhibit tobacco and nicotine addiction and provide an effective strategy for treating tobacco addiction. Copyright 2010, Science China.

The effects of waterpipe tobacco smoking on health outcomes: A systematic review. (review).
Akl EA; Gaddam S; Gunukula SK; Honeine R; Abou Jaoude P; Irani J. *International Journal of Epidemiology* 39(3): 834-857, 2010. (52 refs.)
Methods: We conducted a systematic review using the Cochrane Collaboration methodology for conducting systematic reviews. We rated the quality of evidence for each outcome using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology. Results: Twenty-four studies were eligible for this review. Based on the available evidence, waterpipe tobacco smoking was significantly associated with lung cancer [odds ratio (OR) = 2.12; 95% confidence interval (CI) 1.32-3.42], respiratory illness (OR = 2.3; 95% CI 1.1-5.1), low birth-weight (OR = 2.12; 95% CI 1.08-4.18) and periodontal disease (OR = 3-5). It was not significantly associated with bladder cancer (OR = 0.8; 95% CI 0.2-4.0), nasopharyngeal cancer (OR = 0.49; 95% CI 0.20-1.23), oesophageal cancer (OR = 1.85; 95% CI 0.95-3.58), oral dysplasia (OR = 8.33; 95% CI 0.78-9.47) or infertility (OR = 2.5; 95% CI 1.0-6.3) but the CIs did not exclude important associations. Smoking waterpipe in groups was not significantly associated with hepatitis C infection (OR = 0.98; 95% CI 0.80-1.21). The quality of evidence for the different outcomes varied from very low to low. Conclusion: Waterpipe tobacco smoking is possibly associated with a number of deleterious health outcomes. There is a need for high-quality studies to identify and quantify with confidence all the health effects of this form of smoking. Copyright 2010, Oxford University Press.

Smoking cessation in severe mental illness: What works? (review).
Banham L; Gilbody S. *Addiction* 105(7): 1176-1189, 2010. (64 refs.)
Aims: The physical health of people with severe mental illness (SMI) is poor. Smoking-related illnesses are a major contributor to excess mortality and morbidity. An up-to-date review of the evidence for smoking cessation interventions in SMI is needed to inform clinical guidelines. Methods: We searched bibliographic databases for relevant studies and independently extracted data. Included studies were randomized controlled trials (RCTs) of smoking cessation or reduction conducted in adult smokers with SMI. Interventions were compared to usual care or placebo. The primary outcome was smoking cessation and secondary outcomes were smoking reduction, change in weight, change in psychiatric symptoms and adverse events. Results: We included eight RCTs of pharmacological and/or psychological interventions. Most cessation interventions showed moderate positive results, some reaching statistical significance. One study compared behavioural support and nicotine replacement therapy (NRT) to usual care and showed a risk ratio (RR) of 2.74 (95% CI 1.10-6.81) for short-term smoking cessation, which was not significant at longer follow-up. We pooled five trials that effectively compared bupropion to placebo giving an RR of 2.77 (95% CI 1.48-5.16), which was comparable to Hughes et al.'s 2009 figures for general population data; RR = 1.69 (95% CI 1.53-1.85). Smoking reduction data were too heterogeneous for meta-analysis, but results were generally positive. Trials suggest few adverse events. All trials recorded psychiatric symptoms and the most significant changes favoured the intervention groups over the control groups. Conclusions: Treating tobacco dependence is effective in patients with SMI. Treatments that work in the general population work

for those with severe mental illness and appear approximately equally effective. Treating tobacco dependence in patients with stable psychiatric conditions does not worsen mental state. Copyright 2010, Wiley-Blackwell.

"A delicate diplomatic situation": Tobacco industry efforts to gain control of the Framingham Study.

Cataldo JK; Bero LA; Malone RE. *Journal of Clinical Epidemiology* 63(8): 841-853, 2010. (78 refs.)

Background: The Framingham Heart Study (henceforth Framingham) is among the gold standards for epidemiological research. Being a prospective cohort study of 5,000+ men and women, it provided early findings about the causes of coronary heart disease (CHD), following a cohort over the course of 24 years. After US government funding ended, the tobacco industry funded Council for Tobacco Research (CTR) provided continued funding for analyses related to smoking. Objective: This study sought to understand the tobacco industry's motivation and activities in funding Framingham. Study Design and Setting: We analyzed previously undisclosed tobacco industry documents, conducting iterative searches of the Legacy Tobacco Documents Library (http: legacy.library.ucsf.edu/.), and assembled a historical case study. Results: CTR funded Framingham to obtain full access to Framingham data. CTR planned for long-time industry consultant Carl Seltzer to reanalyze them to suggest that tobacco-related morbidity and mortality primarily resulted from "constitutional" factors, such as age or ethnicity. Once data were obtained, CTR terminated funding for the Framingham principal investigator, who disagreed with Seltzer. Seltzer's critical analyses of subsequently published work by the Framingham team created confusion about the association between CHD and cigarette smoking. Conclusion: Researchers accepting tobacco industry funding risk losing control of data, analysis, and publication. Copyright 2010, Elsevier Science.

Infant morbidity and mortality attributable to prenatal smoking in the US.

Dietz PM; England LJ; Shapiro-Mendoza CK; Tong VT; Farr SL; Callaghan WM. *American Journal of Preventive Medicine* 39(1): 45-52, 2010. (23 refs.)

Background: Although prenatal smoking continues to decline, it remains one of the most prevalent preventable causes of infant morbidity and mortality in the U.S. Purpose: The aim of this study was to estimate the proportion of preterm deliveries, term low birth weight deliveries, and infant deaths attributable to prenatal smoking. Methods: Associations were estimated for prenatal smoking and preterm deliveries, term low birth weight (<2500 g) deliveries, sudden infant death syndrome (SIDS), and preterm-related deaths among 3,352,756 singleton, live births using the U.S. Linked Birth/Infant Death Data Set, 2002 birth cohort. The 2002 data set is the most recent, in which 49 states used the same standardized smoking-related question on the birth certificate. Logistic regression models estimated ORs of prenatal smoking for each outcome, and the prenatal smoking population attributable fraction was calculated for each outcome. Results: Prenatal smoking (11.5% of all births) was significantly associated with very (AOR = 1.5, 95% CI = 1.4, 1.6); moderate (AOR = 1.4, 95% CI = 1.4, 1.4); and late (AOR = 1.2, 95% CI = 1.2, 1.3) preterm deliveries; term low birth weight deliveries (AOR = 2.3, 95% CI = 2.3, 2.5); SIDS (AOR = 2.7, 95% CI = 2.4, 3.0); and preterm-related deaths (AOR = 1.5, 95% CI = 1.4, 1.6). It was estimated that 5.3%-7.7% of preterm deliveries, 13.1%-19.0% of term low birth weight deliveries, 23.2%-33.6% of SIDS, and 5.0%-7.3% of preterm-related deaths were attributable to prenatal smoking. Assuming prenatal smoking rates continued to decline after 2002, these PAFs would be slightly lower for 2009 (4.4%-6.3% for preterm-related deaths, 20.2%-29.3% for SIDS deaths). Conclusions: Despite recent declines in the prenatal smoking prevalence, prenatal smoking continues to cause a substantial number of infant deaths in the U.S. Copyright 2010, Elsevier Science.

Structural and cultural barriers to the adoption of smoking cessation services in addiction treatment organizations.

Knudsen HK; Studts JL; Boyd S; Roman PM. *Journal of Addictive Diseases* 29(3): 294-305, 2010. (41 refs.)

Few studies have examined associations between the availability of smoking cessation services in addiction treatment organizations and specific cultural, staffing, and resource barriers. Telephone interviews were conducted with administrators of 897 addiction treatment organizations in the United States. These data revealed that few programs had adopted the full bundle of five recommended tobacco-related intake procedures, and that less than half of programs offered any smoking cessation services. Barriers to adoption of the intake bundle and availability of services included organizational culture and low levels of staff skills. Adoption of cessation services was associated with center type, location in a hospital setting, levels of care, and organizational size. Although a substantial proportion of organizations offer smoking cessation services, expansion of these services and greater adoption of tobacco-related intake procedures are

needed to address the needs of nicotine-dependent individuals in addiction treatment. Copyright 2010, Haworth Press.

Perioperative management of patients with alcohol, tobacco and drug dependency.

Kork F; Neumann T; Spies C. *Current Opinion in Anesthesiology* 23(3): 384-390, 2010. (73 refs.)

Purpose of review: One in five patients in the perioperative setting has a alcohol use disorder (AUD), one in three patients has a nicotine use disorder (NUD) and one in 10 patients has a drug use disorder (DUD) with a high risk of dependency. Patients with dependencies challenge physicians with various complications within the perioperative setting. Recent findings: Adequate treatment of alcohol, nicotine and drug dependency during the perioperative and intraoperative course requires established screening tools in order to evaluate patients' susceptibility to developing complications. Particularly in these patients, secondary prevention and early treatment is warranted. Summary: Alcohol, nicotine and drug dependency are very treatable. Numerous effective therapeutic options are available and should be offered to patients. Intensive care treatment can be shortened or even avoided by initiating preventive measures. A multimodal approach includes implementation of screening tools, motivational interviewing, preoperative abstinence, individual anaesthesiological treatment, stress reduction preventing delirium and postoperative infection, prevention and treatment of withdrawal syndrome, replacement therapies and provision of preoperative or postoperative detoxification. The implementation rate is very low and urgently requires strategies for improvement. Copyright 2010, Lippincott, Williams & Wilkins.

Nicotine withdrawal and agitation in ventilated critically ill patients.

Lucidarme O; Seguin A; Daubin C; Ramakers M; Terzi N; Beck P et al. *Critical Care* 14(2): r58, 2010. (41 refs.)

Introduction: Smoking is highly addictive, and nicotine abstinence is associated with withdrawal syndrome in hospitalized patients. In this study, we aimed to evaluate the impact of sudden nicotine abstinence on the development of agitation and delirium, and on morbidities and outcomes in critically ill patients who required respiratory support, either noninvasive ventilation or intubation, and mechanical ventilation. Methods: We conducted a prospective, observational study in two intensive care units (ICUs). The 144 consecutive patients admitted to ICUs and requiring mechanical ventilation for > 48 hours were included. Smoking status was assessed at ICU admission by using the Fagerstrom Test of Nicotine Dependence (FTND). Agitation, with the Sedation-Agitation Scale (SAS), and delirium, with the Intensive Care Delirium Screening Checklist (ICDSC), were tested twice daily during the ICU stay. Agitation and delirium were defined by SAS > 4 and ICDSC > 4, respectively. Nosocomial complications and outcomes were evaluated. Results: Smokers (n = 44) were younger and more frequently male and were more likely to have a history of alcoholism and to have septic shock as the reason for ICU admission than were nonsmokers. The incidence of agitation, but not delirium, increased significantly in the smoker group (64% versus 32%; P = 0.0005). Nicotine abstinence was associated with higher incidences of self-removal of tubes and catheters, and with more interventions, including the need for supplemental sedatives, analgesics, neuroleptics, and physical restraints. Sedation-free days, ventilator-free days, length of stay, and mortality in ICUs did not differ between groups. Multivariate analysis identified active smoking (OR, 3.13; 95% CI, 1.45-6.74; P = 0.003) as an independent risk factor for agitation. Based on a subgroup of 56 patients, analysis of 28 pairs of patients (smokers and nonsmokers in a 1:1 ratio) matched for age, gender, and alcoholism status found similar results regarding the role of nicotine withdrawal in increasing the risk of agitation during an ICU stay. Conclusions: Nicotine withdrawal was associated with agitation and higher morbidities in critically ill patients. These results suggest the need to look specifically at those patients with tobacco dependency by using the FTND in ICU settings. Identifying patients at risk of behavioral disorders may lead to earlier interventions in routine clinical practice. Copyright 2010, Biomedical Central.

A tobacco reconceptualization in psychiatry: Toward the development of tobacco-free psychiatric facilities.

Moss TG; Weinberger AH; Vessicchio JC; Mancuso V; Cushing SJ; Pett M et al. *American Journal on Addictions* 19(4): 293-311, 2010. (114 refs.)

Tobacco dependence is the leading cause of death in persons with psychiatric and substance use disorders. This has lead to interest in the development of pharmacological and behavioral treatments for tobacco dependence in this subset of smokers. However, there has been little attention paid to the development of tobacco-free environments in psychiatric institutions despite the creation of smoke-free psychiatric hospitals mandated by the Joint Commission for Accreditation of Health Organizations (JCAHO) in 1992. This

review article addresses the reasons why tobacco should be excluded from psychiatric and addictions treatment settings, and strategies that can be employed to initiate and maintain tobacco-free psychiatric settings. Finally, questions for further research in this field are delineated. This tobacco reconceptualization in psychiatry is long overdue, given the clear and compelling benefits of tobacco-free environments in psychiatric institutions. Copyright 2010, Wiley-Blackwell.

Tobacco use in the Army: Illuminating patterns, practices, and options for treatment.
Nelson JP; Pederson LL; Lewis J. *Military Medicine* 174(2): 162-169, 2009. (39 refs.)
Tobacco use by soldiers has been prevalent throughout the 20th century. Tobacco has been seen as a "right." Additionally, tobacco was viewed as a boost to a soldier's morale and to provide comfort, while reducing stress in austere conditions. Today, tobacco is known to increase healthcare costs, adversely affect readiness, and impact the military members' physical performance. The purpose of this ethnographic study was to describe patterns, practices, and experiences of active duty Army soldiers who use tobacco, have quit using tobacco, and have relapsed after a period of tobacco abstinence. Five themes were uncovered: 1.) Experiences associated with use of tobacco, 2.) Tobacco use in the Army, 3.) Experiences of starting and restarting tobacco, 4.) Balancing health risks with tobacco use, and 5.) Tobacco use regulations and policies. Findings are consistent with the conclusion that the Army culture supports soldiers' tobacco use. Copyright 2009, Association of Military Surgeons.

Interventions for preoperative smoking cessation.
Thomsen T; Villebro N; Moller AM. *Cochrane Database of Systematic Reviews* 7: CD002294, 2010. (73 refs.)
Background: Smokers have a substantially increased risk of postoperative complications. Preoperative smoking intervention may be effective in decreasing this incidence, and surgery may constitute a unique opportunity for smoking cessation interventions. Objectives: The objective of this review was to assess the effect of preoperative smoking intervention on smoking cessation at the time of surgery and 12 months postoperatively and on the incidence of postoperative complications. Search strategy: The specialized register of the Cochrane Tobacco Addiction Group was searched using the free text and keywords (surgery) or (operation) or (anaesthesia) or (anesthesia). MEDLINE, EMBASE and CINAHL were also searched, combining tobacco- and surgery-related terms. Most recent search April 2010. Selection criteria: Randomized controlled trials that recruited people who smoked prior to surgery, offered a smoking cessation intervention, and measured preoperative and long-term abstinence from smoking and/or the incidence of postoperative complications. Data collection and analysis: The authors independently assessed studies to determine eligibility. Results were discussed between the authors. Main results: Eight trials enrolling a total of 1156 people met the inclusion criteria. One of these did not report cessation as an outcome. Two trials initiated multisession face to face counselling at least 6 weeks before surgery whilst six used a brief intervention. Nicotine replacement therapy (NRT) was offered or recommended to some or all participants in seven trials. Six trials detected significantly increased smoking cessation at the time of surgery, and one approached significance. Subgroup analyses showed that both intensive and brief intervention significantly increased smoking cessation at the time of surgery; pooled RR 10.76 (95% confidence interval (CI) 4.55 to 25.46, two trials) and RR 1.41 (95% CI 1.22 to 1.63, five trials) respectively. Four trials evaluating the effect on long-term smoking cessation found a significant effect; pooled RR 1.61 (95% CI 1.12 to 2.33). However, when pooling intensive and brief interventions separately, only intensive intervention retained a significant effect on long-term smoking cessation; RR 2.96 (95% CI 1.57 to 5.55, two trials). Five trials examined the effect of smoking intervention on postoperative complications. Pooled risk ratios were 0.70 (95% CI 0.56 to 0.88) for developing any complication; and 0.70 (95% CI 0.51 to 0.95) for wound complications. Exploratory subgroup analyses showed a significant effect of intensive intervention on any complications; RR 0.42 (95% CI 0.27 to 0.65) and on wound complications RR 0.31 (95% CI 0.16 to 0.62). For brief interventions the effect was not statistically significant but CIs do not rule out a clinically significant effect (RR 0.96 (95% CI 0.74 to 1.25) for any complication, RR 0.99 (95% CI 0.70 to 1.40) for wound complications). Authors' conclusions: There is evidence that preoperative smoking interventions including NRT increase short-term smoking cessation and may reduce postoperative morbidity. The optimal preoperative intervention intensity remains unknown. Based on indirect comparisons and evidence from two small trials, interventions that begin four to eight weeks before surgery, include weekly counselling, and use NRT are more likely to have an impact on complications and on long-term smoking cessation. Copyright 2010, John Wiley & Sons.