Inside this issue: Tobacco/smoking cessation

- Smoking cessation 2
- Secondhand smoke exposures in indoor public places in seven Asian countries 2
- Smoking, smoking cessation, and risk for type 2 diabetes mellitus: a cohort study 3
- The association of pipe and cigar use with cotinine levels, lung function, and airflow obstruction 4
- Depression and smoking in the U.S. household population aged 20 and over, 2005-2008 4
- Assessment of DNA damage in children exposed to indoor tobacco smoke 5
- Adverse events associated with nicotine replacement therapy (NRT) for smoking cessation 5
- Relationships between household smoking restrictions and intention to quit smoking 6
- Media campaign effectiveness in promoting a smoking-cessation program 6

The reduction of tuberculosis risks by smoking cessation

Authors: Wen CP et al.


URL: http://www.biomedcentral.com/1471-2334/10/156

Comment: This was a prospective cohort study with the aim of assessing the benefits of smoking cessation on reduction in tuberculosis mortality in the Taiwanese population. The cohort consisted of 486,341 adults, among whom the tuberculosis mortality risks for smokers, never smokers and former smokers were compared using a Cox proportional model to estimate the hazard ratios (HR) for tuberculosis. Smokers with a self-reported history of tuberculosis had a very high tuberculosis mortality (HR=44.02). Among those without a self-reported history of tuberculosis, smoking increased TB mortality nine-fold (HR=8.56), but when they quit smoking, the risk was reduced by more than half (65%), and this reduction was to a level not different from those who had never smoked. Smoking accounted for more than one-third (37.7%) of TB mortality in Taiwan. This study demonstrated that smokers had a very high TB mortality and when they quit smoking, the risk was reduced substantially and was similar to that of individuals who had never smoked. This study also suggests that tobacco control measures should be an essential component of TB control programmes to reduce the burden of TB in the community.
Smoking cessation

Authors: Chandler MA, Rennard SI
URL: http://chestjournal.chestpubs.org/content/137/2/428

Comment: Globally, tobacco use leads to more than 5 million deaths every year and cigarette smoking is the major cause of preventable morbidity and mortality. This review article summarizes pharmacological and non-pharmacological interventions for smoking cessation. The review begins with descriptions of nicotine addiction and the health benefits of quitting smoking. A detailed account of non-pharmacological support, including educational, motivational and behavioural interventions for individual smokers is provided. Pharmacotherapy with various forms of nicotine replacement therapy (gum, lozenge, nasal spray, inhaler or patch), bupropion and varenicline is described in detail. A brief description of emerging therapies and a list of useful web sites providing information on smoking cessation are also included in this review article. This review is a useful source of material for pulmonologists who actively participate in organizing smoking cessation programmes.

Secondhand smoke exposures in indoor public places in seven Asian countries

Authors: Lee J et al.
URL: http://www.sciencedirect.com/science/journal/14384639

Comment: Second-hand smoke (SHS), consisting of a mixture of smoke from the burning of tobacco products and smoke exhaled by smokers, is a complex mixture of more than 4,000 chemicals, of which more than 50 are known carcinogens. SHS has been reported to be strongly associated with an increased incidence of cardiovascular and respiratory illnesses, as well as lung cancer, in both smokers and non-smokers. This was a multicentre cross-sectional study in seven Asian countries with different rates of smoking prevalence. The objective of this study was to measure SHS levels in hospitality venues and to compare SHS exposure with the levels observed in Western countries. The countries selected for the study were China, India, Japan, Korea, Malaysia, Pakistan and Sri Lanka. The study was carried out in four types of related hospitality venues viz. restaurants, cafés, bars/clubs and entertainment venues. The investigators used a hand-held laser operated monitor for real time measurement of the levels of particulate matter <2.5 µm in aerodynamic diameter (PM2.5), in 168 venues in these seven countries. The study did not use a random sampling method. The average indoor PM2.5 concentration was 137 µg/m³, ranging from 46 µg/m³ in Malaysia to 207 µg/m³ in India. Bars/clubs had the highest PM2.5 concentrations (191 µg/m³) and restaurants had the lowest PM2.5 concentrations (92 µg/m³). The average indoor PM2.5 concentration in smoking venues was 156 µg/m³, which was 3.6 times higher than that in non-smoking venues (43 µg/m³). Indoor PM2.5 concentrations were significantly associated with country, type of venue, smoking density and air exchange rate (P < 0.05). The authors concluded that in these seven Asian countries, PM2.5 concentrations were high due to the levels of SHS in public places. The current levels are comparable with those in Western countries before the adoption of smoke-free policies. This study emphasizes the need for comprehensive smoke-free regulations in Asian countries with nearly 60% of the world’s population and a high prevalence of smoking.
Comment: Cigarette smoking is a risk factor for incident diabetes mellitus. However, it is not known whether smoking cessation reduces the risk of diabetes. It is possible that smoking cessation may reduce diabetic risk due to decreased systemic inflammation, which is also an important risk factor for diabetes. However, substantial weight gain associated with smoking cessation may increase diabetes risk. This aspect was studied in a prospective cohort study in which data from the Atherosclerosis Risk in Communities (ARIC) study was analyzed to test the hypothesis that smoking cessation increases diabetes risk in the short term, possibly due to weight gain in individuals who quit smoking. Middle-aged adults (n = 10,892) who did not have diabetes at baseline were followed up for nine years. Smoking status was assessed by interview at baseline and at subsequent follow-up clinic visits. Incident diabetes was established by assay of fasting blood glucose levels and self-report of physician diagnoses or use of diabetes medications. During nine years of follow-up, 1,254 adults developed type 2 diabetes. The incidence of diabetes increased from 13.3 per 1000 person-years in individuals who never smoked to 18.5 per 1000 person-years among those in the highest tertile of pack-years. The adjusted hazard ratio for incident diabetes among those in the highest tertile of pack-years was 1.42 (95% CI 1.20 to 1.67), compared with adults who never smoked. After adjustment for age, race, gender, education, adiposity, physical activity, lipid levels, blood pressure, and ARIC study centre, the hazard ratios for diabetes among former smokers, new quitters, and continuing smokers were 1.22 (95% CI 0.99 to 1.50), 1.73 (1.19 to 2.53) and 1.31 (1.04 to 1.65) respectively, compared with adults who never smoked. In an analysis of long-term risk after quitting, the highest risk occurred in the first three years (hazard ratio 1.91 [95% CI 1.19 to 3.05]), and the risk then gradually decreased to zero at 12 years. The authors concluded that cigarette smoking predicts incident type 2 diabetes, but that smoking cessation leads to higher short-term risk and smoking cessation should be coupled with strategies for diabetes prevention and early detection of smokers at risk of diabetes. Though the beneficial effects of smoking cessation are well known, this study shows that smoking cessation does not reduce the short-term risk of diabetes, but paradoxically smoking cessation increases the risk of diabetes. Since smoking is also a known risk factor for incident diabetes, this study emphasises the need for prevention of initiation of smoking, rather than focusing on smoking cessation among those who have already become addicted.
The association of pipe and cigar use with cotinine levels, lung function, and airflow obstruction

Authors: Rodriguez J et al.
URL: http://www.annals.org/content/152/4/201.full.pdf+html

Comment: Though cigarette smoking is the most common cause of chronic obstructive pulmonary disease (COPD), the role of other smoking habits in the causation of COPD is not well studied. However, the rate of cigarette smoking is in fact declining, whereas other forms of smoking (cigar and pipe smoking) are increasing in some countries. This cross-sectional study was carried out with the objectives of determining whether pipe and cigar smoking are associated with elevated cotinine levels, decrements in lung function and increased odds of airflow obstruction. This was a population based study of six US communities, involving 3,528 participants of both sexes, aged 48 to 90 years. Self-reported current pipe and cigar smokers had elevated urinary cotinine levels compared with non-smokers. Pipe-years and cigar-years were associated with declines in lung function. Participants who smoked pipes or cigars had increased odds of airflow obstruction (odds ratio, 2.31 [95% CI 1.04 to 5.11], \( P=0.039 \)), compared with participants with no smoking history. This study suggests that long-term cigar or pipe smoking may be a risk factor for COPD, and physicians and the public should be made aware of the harmful effects of cigar and pipe smoking.

Depression and smoking in the U.S. household population aged 20 and over, 2005-2008

Authors: Pratt LA, Brody DJ
URL: http://www.cdc.gov/nchs/data/databriefs/db34.htm

Comment: Data from the National Health and Nutrition Examination Surveys has revealed that adults with depression are more likely to be current cigarette smokers than those without depression. Among adults with depression, men and women had similar rates of smoking, whereas among adults without depression, men are more likely to be smokers than women. The percentage of adults who are current smokers increased as the severity of depression increased. Adult smokers with depression were more likely to be heavy smokers than adult smokers without depression. They were also more likely to smoke their first cigarette within five minutes of awakening, and to smoke more than one pack of cigarettes per day. Individuals with depression had a higher rate of smoking initiation (ever smoking), as well as a lower rate of quitting. This study suggests that individuals with depression are an important target group for smoking cessation, and may require intensive cessation services, including cognitive behavioural therapy or antidepressant medications.
Assessment of DNA damage in children exposed to indoor tobacco smoke

Authors: Beyoglu D et al.
URL: http://www.sciencedirect.com/science/journal/14384639

Comment: It has been reported by the US Centers for Disease Control and Prevention that about five out of every ten school children are exposed to tobacco smoke at home and that 40% of children less than five years old live with a smoker family. As environmental tobacco smoke (ETS) has been reported to contain more than 50 carcinogens, ETS may cause DNA damage in children, leading to an increased risk of developing cancer. The aim of this study was to determine the risk of genotoxicity following exposure to tobacco smoke in a group of children living with adult smokers, as well as to examine the extent of DNA damage resulting from this exposure. The children enrolled in the study were selected from the paediatric unit of a hospital in Istanbul, Turkey. Genotoxic effects were assessed by the alkaline comet assay, which measures the percentage of DNA damage in the tail (%DNAT). %DNAT was significantly higher in children who were exposed to indoor tobacco smoke (10.73 ± 71.38), compared with children in the control group (8.16 ± 71.29) (P <0.01). As a result of bans on smoking in the workplace and public places in many countries, the number of close family members who smoke at home has increased, thereby exposing the children in these households to the deleterious effects of ETS. This study demonstrates that there is DNA damage in children exposed to ETS and this will lead to serious health consequences for these unfortunate children in the future.

Adverse events associated with nicotine replacement therapy (NRT) for smoking cessation. A systematic review and meta-analysis of one hundred and twenty studies involving 177,390 individuals

Authors: Mills EJ et al.
URL: http://www.tobaccoinduceddiseases.com/content/8/1/8

Comment: Although nicotine replacement therapy (NRT) is the most common form of pharmacotherapy for smoking cessation, the adverse effects associated with NRT have not been precisely quantified. The authors undertook this study to determine the magnitude of reported adverse effects of NRT by a systematic review and meta-analysis of all randomized clinical trials (RCTs) of NRT versus inert control therapy and all observational studies. RCTs were pooled using a random effects method with odds ratio (OR) as the effect measure, while proportions were pooled from observational studies. A meta-regression analysis was applied to examine whether nicotine patches were associated with different adverse effects compared with those commonly occurring with oral NRT. Ninety-two RCTs involving 32,185 participants, and 28 observational studies involving 145,205 participants, were identified. Pooled RCT evidence of various NRT formulations showed an increased risk of heart palpitations and chest pains (OR 2.06, 95% CI 1.51-2.82, P<0.001), nausea and vomiting (OR 1.67, 95% CI 1.37-2.04, P<0.001), gastrointestinal complaints (OR 1.54, 95% CI 1.25-1.89, P<0.001) and insomnia (OR 1.42, 95% CI 1.21-1.66, P<0.001). Pooled evidence specific for NRT patches showed an increase in skin irritations (OR 2.80, 95% CI 2.28-3.24, P<0.001). Oral NRT was associated with mouth and throat soreness (OR 1.87, 95% CI 1.36-2.57, P<0.001), mouth ulcers (OR 1.49, 95% CI 1.05-2.20, P<0.001), hiccup (OR 7.68, 95% CI 4.59-12.85, P<0.001) and cough (OR 2.89, 95% CI 1.92-4.33, P<0.001). There was no statistically significant increase in anxiety or depressive symptoms associated with the use of NRT. The authors concluded that the use of NRT is associated with a variety of side effects. This study highlights the adverse effects that may occur with NRT, and physicians practising in smoking cessation clinics should educate patients about these adverse effects so that smoking cessation programmes can be successfully implemented.
Media campaign effectiveness in promoting a smoking-cessation program

Authors: Czarnecki KD et al.


URL: http://www.ajpm-online.net/article/S0749-3797(09)00860-5/fulltext

Comment: This was a study to assess the effectiveness of the media in promoting a time-limited, telephone based smoking cessation program such as a Nicotine Patch Program (NPP), among a population based sample of adult smokers. A random telephone survey of New York city smokers (n = 1000) was conducted to assess awareness of, interest in, and barriers to using the Nicotine Patch Program. The level of awareness was about 60%. The level of awareness in men (53%) was lower than that in women (65%, P<0.001). The level of awareness was also high among daily smokers compared with non-daily smokers (61% vs 49%, P<0.001). The majority of survey respondents heard about the program through television advertisements (62%), followed by word-of-mouth (19%) and radio advertisements (14%). Among respondents who were aware of, but not interested in the NPP, the most common reason for not making phone calls was that they were not ready to quit smoking (25%). Participants who were unaware of the program suggested advertisements on bill boards (17%), public transportation (10%) and direct mail to homes (5%) as future outreach methods, in addition to advertisements on television (30%) and in newspapers or magazines (15%). This study demonstrates the usefulness of the mass media as an effective method for informing smokers about smoking cessation services.

Relationships between household smoking restrictions and intention to quit smoking among Korean American male smokers in California

Authors: Myung SK et al.


URL: http://ikms.org/Synapse/Data/PDFData/0063JKMS/jkms-25-245.pdf

Comment: This was a cross-sectional study, conducted among Korean American male smokers in California, to examine the relationship between household smoking restrictions and intentions to quit smoking. Data was collected from the California Korean American Tobacco Use Survey (CKATUS), using computer-assisted telephone interviews. There were 2,545 respondents who participated in the survey. The final analysis included data from 387 male smokers, who answered a question assessing their intention to quit smoking. In a multiple logistic regression analysis, an intention to quit smoking was significantly correlated with household smoking restrictions (complete or partial restriction vs. no restriction on smoking: odds ratio 2.54, 95% CI 1.22-5.28) and the absence of other smokers in the household. Smoking restrictions in the household have been found to be associated with an intention to quit smoking among Korean American male smokers in California. This study demonstrates that non-smoking household members can influence smokers in the household to quit smoking.