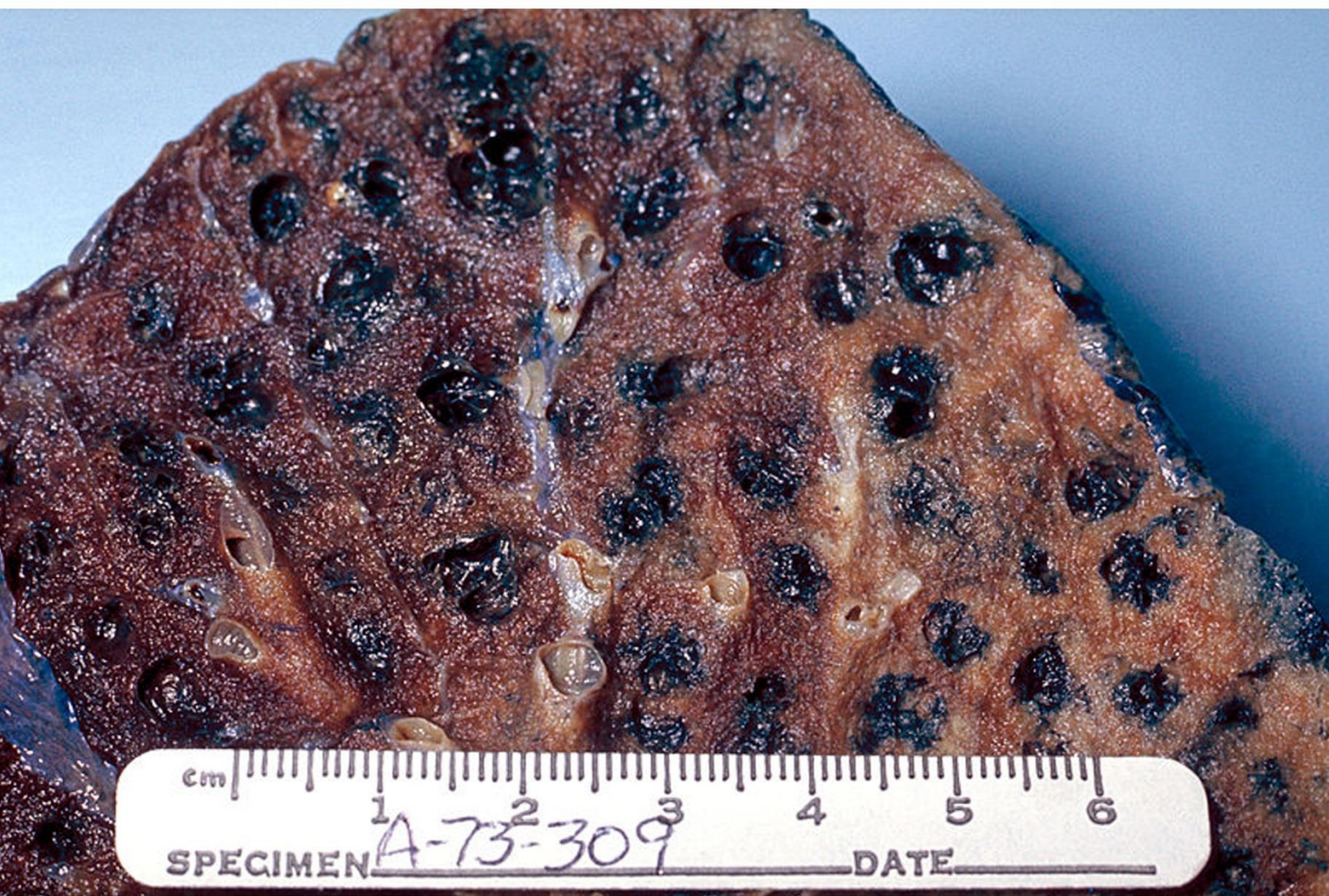


THE 2015 SMOKING SCIENCE SUMMIT

ABSTRACTS



19TH -21ST MAY 2015
LONDON, UK

EuroSciCon 

This international event will discuss the latest research related to the science of smoking, smoking cessation and the impact of smoking (social, economic, health and environmental).

This event has [CPD accreditation](#)

This abstract book will be finalised two weeks before the event
www.regonline.co.uk/Smoke2014

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Day 1:

Invited Speakers Abstracts

Smoking Cessation in Lung Cancer

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Lung cancer is the commonest cause of cancer death, and most cases are caused by smoking. Although the prevalence of smoking is now declining, those who have smoked heavily in the past continue to be at risk for lung cancer, even after quitting. We have observed that some patients with lung stop smoking without apparent difficulty prior to diagnosis. Currently in the United States more than half of patients diagnosed with lung cancer have stopped smoking, sometimes many years prior to their diagnosis.

New evidence on the severe public health consequences of smoking. Estimates based on long term exposure data and 35 years of complete health records on the entire Swedish population

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Swedish males smoke less than any male population in the world (11.8%) and the female smoking prevalence is declining (currently 12,4%). Nevertheless, smoking is still the single most important risk factor for health problems, and is responsible for a larger number of deaths and morbidity in Sweden than was previously known. The current smoking related morbidity and mortality is based on many years of previous smoking. Prevalence rates have declined steadily, but have not yet fully materialized in positive health effects since the lag time between exposure and illness/death is very long for the most common and severe consequences.

We estimated the current (2010-2012) burden of smoking related illness and mortality by using Swedish total population data on causes of death, cancer, hospital discharges, and maternity/birth records. Exposure for smoking was estimated from the Swedish Level of Living Survey (ULF/SILC), which contains a long time series of annual data on self-assessed smoking habits, originating in 1977. Risk factors for individual diseases associated with smoking were established from the literature. We found 53 diagnoses for which in 2012 there was enough evidence to establish a relationship, with relative risks above 1 also for old ages.

By using this information, we were able to get accurate complete information on the number of persons treated in hospitals for the first time or dead from all the diseases that were listed as smoking related. We connected health outcomes to exposure using the estimated lag time as an average for the entire group of incident cases (deaths and illnesses). We then applied the estimated relative risks to compute the attributable fraction from smoking for each disease.

In Sweden about 12 000 death yearly and 100 000 new cases of hospital treated disease can be ascribed to smoking.

The largest contribution to mortality comes from cancer (5 300) cardiovascular diseases (3 500) and respiratory diseases (2 900). The number of first time treated in hospital for a health problem connected to smoking has to our knowledge not been estimated before. We found 45 500 per year treated for the first time for respiratory diseases, 22 500 for CVD, and 8 500 for cancer. In addition, there were 4 700 treated for smoking related reproductive and perinatal diseases, showing that smoking indeed creates health problems also for young people.

In spite of the complete information in the Swedish registers one must count on that some consequences of smoking are underestimated, in particular the amount of smoking induced COPD, since there is a considerable delay in the time between onset and contact with the health care system.

New policy measures against smoking currently considered in Sweden include neutral packaging of tobacco products, no exposure of cigarettes in grocery stores, and restrictions on smoking in outside public places.

På gång: policy insatser (neutrala paket, rökfria utomhusmiljöer, förbud av produktexponering)

The smoking fetus

Dr Christopher Griffin, Consultant Maternal and Fetal Medicine, King Edward Memorial Hospital, Australia. Addiction to smoking is of major concern when considering the damage that can occur to a developing foetus. This talk will explore the reasons why women still smoke in pregnancy, the effects of intervention programs in pregnancy and the short and long term complications for the offspring

Smoking and Pregnancy

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Active and passive tobacco smoke exposure are responsible for numerous adverse outcomes during pregnancy including preterm birth and low infant birth weight, miscarriage, stillbirth and sudden infant death syndrome (SIDS). Despite the fact that women are routinely informed of the risks of tobacco use at least a third will continue to smoke during pregnancy and many will continue to be exposed to second hand smoke.

Cessation of active and passive maternal tobacco smoking during pregnancy are some of the most significant interventions to lower risk factors for adverse birth outcomes (Lai et al., 2013; Lawrence and Haslam, 2007; Vardavas et al., 2010). Previous studies have reported that tobacco smoking during pregnancy is significantly associated with increased risks of intrauterine growth retardation, preterm birth, low birth weight, miscarriage, stillbirth, congenital malformation, sudden infant death syndrome, genetic-related hereditary diseases, perinatal mortality and morbidity, short stature, cognitive delays, and neurologic disorders. There was significant inverse associations between birth weight and offspring mortality from all-causes including cardiovascular mortality (Risnes et al., 2011). Pregnant women who smoke place themselves and their babies in a high-risk situation. However, at least a third of women smokers will continue to smoke during pregnancy, despite knowing many of the impending risks on their babies. Previous studies have demonstrated that pregnant smokers usually have partners who actively smoked during their pregnancy (Leonardi-Bee et al. 2011). The health of pregnant women and their fetuses is inherently threatened by both active and passive smoking of their partners or families.

The perceptions of pregnant smokers regarding the health risks of smoking and the need to refrain from passive smoking have been described as important factors influencing smoke-free behavior (Lai et al., 2013; Leonardi-Bee et al. 2011;). Higher levels of perceived stress, depression, neuroticism, negative paternal support, and perceived racism were generally associated with higher odds of being a smoker than a non-smoker (Maxson et al., 2012). A partner who continues using tobacco throughout a woman's pregnancy is a significant predictor of the current smoking status of the pregnant woman. Recent studies have generally highlighted the need to conduct research on the types of interventions to be used to set goals for reducing smoking in pregnancy and promote smoke free environments, as a potential benchmark of an effective primary care system. Midwives and other community health professionals need to educate, guide and ultimately encourage pregnant women to stop smoking and never engage in a postnatal relapse. However, encouraging pregnant smokers to change their health behavior may be difficult despite pregnancy providing a 'window of opportunity' to encourage positive behavior change, such as quitting smoking and promoting smoke free environments.

Whether or not a pregnancy was desired and planned, is also a factor that seems to affect the willingness of pregnant smokers to quit. 43% of mothers did not plan their pregnancy and 34% were smoking just before and/or during pregnancy. Therefore, women with planned pregnancies were observed to be half as likely to be smokers just before pregnancy, and more likely to give up or reduce the volume of cigarettes as pregnancy progresses. Unplanned pregnancies had 24% increased odds of low birth weight and prematurity, compared to planned pregnancies independent of smoking status.

Maternal stress may therefore inhibit smoking cessation during pregnancy and promote a relapse after pregnancy in women who have achieved abstinence (Hauge et al., 2012;). Smoking cessation could reveal depression and thus should be done under medical guidance in smokers with depression symptoms. Community midwives were most likely to provide smoking cessation advice and counseling by midwives and healthcare staff can significantly reduce the volume of smoking during pregnancy and consequently boost an increase in birth weight. Thus, specific training of in smoking cessation is needed in order to make them adequate in helping pregnant smokers and reduce relapse rates during postnatal period. Smoking during pregnancy not only impacts the woman's health but also that of her unborn child. Lastly

partners and families of pregnant should be included in smoking cessation programs in order to enhance efforts and quitting results in pregnant women. There is good evidence that stopping smoking as early as possible during the pregnancy can reduce the above risks (New Zealand Ministry of Health, 2014; NICE, 2010). Women that have had a smoke free pregnancy should be offered help to remain smoke free after birth (New Zealand Ministry of Health, 2014; NICE, 2010).

The infants of these women also seemed to have increased risks of health problems caused by maternal tobacco smoking. Despite the high level of awareness that pregnant smokers generally demonstrate towards the numerous risks that their infants could face as a consequence of their reluctance to quit smoking, only about third of them actually do manage to quit (Lai et al., 2013;).

It has been indicated that psychosocial interventions to support women to stop smoking in pregnancy can increase the number of women who stop smoking in pregnancy, and reduce low birth weight and preterm births (Chamberlain et al., 2013). It is therefore essential that pregnant women and their partners and close relatives be educated on the health risks of both active and passive smoking, both to their babies and to themselves.

Furthermore, when advising for quitting, motivational and behavioral support should be administered concurrently with easy access of Smoking Cessation Clinics, ideally in the same Maternity hospital or in the community health center.

Only smoke-free environments sufficiently promote perinatal health for the mother and the fetus/newborn, so there is an emerging need to highlight international aspects for this important public health issue.

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Smoking among patients with severe mental health and substance use disorders

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Smoking has declined in all parts of the population except for patients with mental health and addiction disorders. This group also has a 15 to 20 years shorter life expectancy than the rest of the population. There is strong evidence that smoking is influencing cognition and increases the risk for depression. There is also some evidence that giving smoking cessation treatment has a beneficial effect on other addiction problems. To reduce smoking among severe mental health and substance abuse patients is not high on the agenda for most mental health and addiction care workers.

Smoking interventions for surgical patients: are they worth it?

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Smoking is hypothesized to cause temporary changes in blood, tissue, and reparative cell functions, which can lead to delayed wound healing. Smoking can prolong recovery, leading to an increase in the risks of hospital-acquired infections and postoperative complications. The cascade effect of smoking then can contribute to barriers for adjuvant therapy, further contributing to poor long-term cancer outcomes. This presentation will discuss the impact of smoking on oncologic surgical treatment and outcomes, the risk/benefits of smoking cessation for surgical patients, potential treatment options for surgical patients and finally, recent and proposed study designs.

Oral Presentation Abstracts

Oral presentations will be added after the submission deadline

DOES SMOKING STATUS AFTER A DIAGNOSIS OF LUNG CANCER MATTER? TWELVE MONTHS ON

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INTRODUCTION

Despite advances in radiology, chemotherapy and attempts at early diagnosis, the 5-year survival for Lung Cancer (LC) remains poor at less than 10%. Studies suggest that continued smoking after a diagnosis of LC independently worsens quality of life, and shortens life expectancy but these are small, retrospective, moreover smoking was self-reported and only at baseline.

METHODS

In a UK multicentre trial (NCT01192256) we followed consecutive patients with newly diagnosed LC for up to 12 months. Self-reported smoking status was verified by serial exhaled carbon monoxide levels. All were offered smoking cessation and standard treatments according to best practice.

RESULTS

1 year mortality data for the first 822 patients was analysed.

Kaplan-Meier survival estimates at 12 months for smokers who quit within 3 months of diagnosis, never smokers, former smokers who had abstained for longer than 1 year, former smokers who quit in the year before diagnosis and those who continued to smoke were, 61.5% (6.7%), 59.6% (7.2%), 49.1% (2.7%), 47.6% (4.4%) and 41.0% (3.1%) respectively.

A log rank test confirmed a significant difference in survival depending on smoking status, $X^2(4) = 12.641$, $P = 0.013$ with quitting smoking at diagnosis resulting in improved 1 year survival.

CONCLUSION

This is the first prospective study to show people who quit smoking within 3 months of being diagnosed with LC have an increased survival compared to those who continue to smoke.

Further analysis regarding effects of smoking/quitting status on survival according to LC staging, histology as well as any effect on treatment complications and quality of life is on going.

Our findings to date indicate that stopping smoking is associated with significantly better prognosis in patients newly diagnosed with LC.

EVALUATION OF EXPOSURE TO ENVIRONMENTAL TOBACCO SMOKE AMONG MEDICINE STUDENTS-APPLICATION OF QUESTIONNAIRE DATA AND BIOMARKERS ANALYSIS

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Environmental Tobacco Smoke (ETS) is ranked as one of the factors of confirmed carcinogenicity to human. It consists of the mixture of smoke exhaled by the smoker as well as the sidestream smoke and contains many times higher concentrations of some toxic substances in comparison to the amount of toxic compounds inhaled by a smoker. From many years the issue of passive smoking has been the subject of research and still not all of its aspects of affecting human health have been explored. Smoking is not only a negative habit among adults but also among young people. Despite many anti-tobacco campaigns undertaken by European Union countries still the smoking percentage among young people is high. Young adults who smoke more often expose themselves to the risk of unhealthy behaviour such as alcohol or drug abuse.

Although medical students express positive attitudes toward providing lifestyle counseling, they require more instructions in the areas of weight screening, nutrition, and especially exposure to tobacco smoke and its influence on young people health in order to be helpful to their patients in the future.

In order to verify the changes in medicine students attitudes towards cigarettes smoking after the introduction of new regulations regarding smoking ban in public places authors compared the results of two cross-sectional studies carried out in year 2007 and 2012. In our studies the authors'- designed questionnaire regarding the assessment of students daily habits including exposure to tobacco smoke and chosen xenobiotics was used. The second part of the studies involved collection of urine samples in order to verify exposure to environmental tobacco smoke by analysing main nicotine metabolites. The investigated group included 134 (study 2007) and 169 (study 2012) students of 1-st and 2-nd year of medicine at Faculty of Medicine and Dentistry Division in Zabrze, Medical University of Silesia in Poland. Among the investigated students in 48% of examined urine samples nicotine metabolites were detected. The analyses were carried out with use of ELISA technique. Almost all interviewed students (96.4%) were aware of harmful influence of cigarettes smoking and in most cases this knowledge was based on information obtained at school (93.4%). Comparison of questionnaire results from both studies (2007 vs. 2012) revealed that the average age of first cigarette smoking had slightly increased (15.3 ± 2.5 vs. 16.0 ± 2.3 years) however, the percentage of students exposed to passive smoking (31.6% vs. 42.1%) and the number of active smokers (30.5 % vs. 39.0%) had increased as well.

The applied questionnaire proved to be a reliable source of information regarding the tobacco smoke exposure in the group of young adults. Medicine students, regardless of their area of study, seem to be a part of the population significantly exposed to tobacco smoke, not only actively but also passively. Despite the introduction of new regulations restricting the exposure to tobacco smoke the number of young current smokers has not diminished in Poland.

MATERNAL TOBACCO USE AS A RISK FACTOR FOR SMALL FOR GESTATIONAL AGE (SGA) IS A THIRD-TRIMESTER EFFECT

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Background: While small for gestational age (SGA) is a well-known consequence of maternal smoking, the magnitude of risk by week of gestational age has not been elucidated. To assess that risk, we analyzed the 1990-2009 birth certificate data for central Appalachian states.

Methods: Live births (N = 3,032,928) with birth weight, gestational age (22-44 weeks), and maternal tobacco use history were categorized as SGA or not, based on 10th percentile gender-specific weights-for-age (Oken et al., 2003). SGA prevalence was analyzed for tobacco users and non-users, yielding relative risks and odds ratios. Gestational week-specific rates, rate differences, and multivariate logistic adjusted odds ratios were also analyzed.

Results: SGA prevalences among tobacco users (19.5%) and non-users (9.1%) yielded significant SGA prevalence rate ratio and odds ratio of 2.1 and 2.4, respectively. The pattern for SGA by gestational week was similar for comparative rates, rate differences, and adjusted odds rates. The rate for tobacco non-users was steadily near 9% across the gestational age range of 22 to 44 weeks. The rate for tobacco users was steady until week 33 when it rose monotonically through week 37 to about 20% at week 38 and remained high. Tobacco use was not seen to be an SGA risk factor for births of gestational age of 33 weeks or earlier. Tobacco use as an SGA risk factor for third-trimester births grew during the period of premature birth and became fully evident with a two-fold risk for full term infants.

Conclusion: We newly report the temporal pattern of tobacco-related SGA by week of gestational age. Tobacco-related SGA was only seen in the third trimester – increasing during weeks 33 through 37 with a doubling during weeks 38-44. This pattern is informative for issues of mechanism and demonstrates the benefit of maintaining tobacco cessation programs through the end of pregnancy.

THE RELATIONSHIP AMONG SOCIAL SUPPORT, LEVEL OF DISTRESS AND SMOKING STATUS AMONG CANCER SURVIVORS: RESULTS FROM 10 US STATES, 2010

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Background: In the United States (US), there are 13.7 million individuals living with a previous diagnosis of cancer as of 2013. A cancer diagnosis is a life-changing experience and survivors face unique challenges to physical and mental health across the continuum of cancer care. Cancer survivors who smoke cigarettes at the time of diagnosis experience worse clinical outcomes as compared to never or former smokers. Continued smoking after a diagnosis of cancer reduces the effectiveness and increases the risk of complications of cancer treatment, increases the risk of developing secondary cancer, reduces physical and mental quality of life, and overall survival. To maximize the wellbeing of the growing population of cancer survivors, positive changes in health behaviors such as smoking cessation are essential.

Purpose: Using population based data, the aims of the current study were (a) to identify the frequency of mental distress among cancer survivors; (b) to examine the association between receipt of social support, mental distress and smoking status among cancer survivors; and (c) to identify factors (socio-demographic and cancer-related) that are associated with smoking status among cancer survivors with and without mental distress. We further sought to identify cancer survivors who may require additional support in quitting smoking.

Methods: Data were obtained from the 2010 Behavioral Risk Factor Surveillance System (BRFSS), Cancer Survivorship module. The BRFSS is an annual, cross-sectional, state-based computer-assisted telephone survey administered in all 50 states of the U.S., and entities. In 2010, the cancer survivorship module was administered in 10 states and entities. Sample weights were applied to account for the complex survey design of the BRFSS and to provide population estimates. Descriptive statistics, percentages and 95% confidence interval (CI) for categorical variables and means and standard error (SE) for continuous variables, were conducted for all variables by distress group: infrequent mental distress and frequent mental distress. For examining the association between receipt of social support and smoking status, we constructed two separate multivariate multinomial logistic regression models for cancer survivors with infrequent and frequent mental distress. We estimated the adjusted odds ratios (AORs) with their corresponding 95% CI for each independent variable. Results were considered statistically significant if two-sided p-values were ≤ 0.05 .

Results: A total of 8,055 adult cancer survivors were included in the sample, corresponding to a population estimate of 2.6 million. In 2010, 15.6% (418,700) of the 2.6 million adult cancer survivors were current-smokers, 38.4% (1.03 million) were former-smokers and 46.0% (1.2 million) never-smokers. About 82.0% of the sample reported that they received social support always/usually. In the past 30 days, about 12% had experienced frequent mental distress. Approximately 47% were 65 years of age or older, 59.2% were female. Participants' mean age at the time of the first cancer diagnosis was 51.0 (SE=0.33) and the mean time since first primary cancer diagnosis was 11.3 years (SE=0.18). Compared with those in the infrequent mental distress group, cancer survivors with frequent mental distress were diagnosed at a younger age (45.0 vs. 51.8), and more likely to be current-smokers (36.8% vs. 12.7%). Among participants with infrequent mental distress, compared with the odds of being a former-smoker, the odds of being a current-smoker were lower for survivors who received social support always/usually (AOR: 0.64, 95% CI: 0.42-0.90). No statistically significant association was found between receipt of social support and smoking status among cancer survivors with frequent mental distress.

Conclusion: Smoking rates are lower among cancer survivors who receive social support and have low levels of mental distress. Psychosocial screening to identify smokers with high levels of mental distress may help to identify those who require more intensive smoking cessation interventions.

PRO-INFLAMMATORY PATHWAYS INDUCED BY INTERFERON-GAMMA ARE LESS EXPRESSED IN SMOKERS VS. NON-SMOKERS

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Pro-inflammatory cytokines like interferon-gamma (IFN-g) stimulate tryptophan degrading enzyme indoleamine 2,3-dioxygenase (IDO) and production of neopterin in parallel [1]. Both biochemical pathways are therefore strongly induced in clinical conditions like virus infections, autoimmune pathologies and cancer but also in cardiovascular disorders, and in all these diseases higher level are predictive for more rapid disease progression and poorer survival expectations. Carbon monoxide (CO) strongly suppresses Th1-type immune activation including production of IFN-g. Thus the suppression of IDO and neopterin production can be anticipated in smokers as compared with non-smokers. In several sets of patients with cardiovascular abnormalities and also in healthy individuals, lower tryptophan breakdown rates and neopterin levels have been observed [2-5]. The studies agree well with the fact that exposure to CO in smokers is associated with down-regulation of the biochemical pathways induced by IFN-g. As a consequence, functional immunity begins to suffer but in turn tryptophan levels raise [5]. It may contribute to enhanced mood which may represent one reason why people smoke despite the fact that they know about the poison associated with this behavior.

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DECREASED NICOTINE DEPENDENCE THROUGH GROUP 'SMOKE-FREE' PLEDGE IN ADOLESCENTS: A CLUSTER RCT

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ABSTRACT

Objective. To test the effectiveness of a school-based, peer-led smoking and asthma education program, known as the Adolescent Asthma Action (Triple A) in Jordan (TAJ), with an additional class smoke-free pledge strategy (TAJ-Plus) as compared to the TAJ alone on smoking-related knowledge and perception, nicotine dependence, and asthma control in male high school students in Jordan four months post intervention.

Methods. In this cluster-randomized controlled trial, four public male high schools in Irbid, Jordan, were randomly assigned to receive the TAJ-Plus (n=215) or the TAJ alone (n=218). TAJ educators were 3rd year male undergraduate nursing students (n=9) who received training in a one-day workshop. These educators then trained senior students from the four schools to be Peer Leaders (n=53), who then taught peers in grades 7 and 8 (n=433). The Peer Leaders in the TAJ-Plus schools implemented the smoke-free pledge within the 7th and 8th graders, who all voluntarily signed the pledge for four months. Data were collected from students in grades 7 and 8 using self-administered questionnaires at baseline and four months post intervention.

Results. Students from the TAJ-Plus group reported significant improvements in smoking-related knowledge and perception (p<0.000) and lower nicotine dependence (p<0.000) as compared to the TAJ group. Improvement in asthma control was greater (p=0.03) in nonsmokers as compared to smokers.

Conclusions. Group commitment smoke-free pledge is feasible, beneficial, and can be an incentive to motivate adolescents to abstain from smoking. Using social influences approaches in schools can be useful in countering the aggressive tobacco marketing campaigns.

THE RELATIONSHIP AMONG SOCIAL SUPPORT, LEVEL OF DISTRESS AND SMOKING STATUS AMONG CANCER SURVIVORS: RESULTS FROM 10 US STATES, 2010

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Background: In the United States (US), there are 13.7 million individuals living with a previous diagnosis of cancer as of 2013. A cancer diagnosis is a life-changing experience and survivors face unique challenges to physical and mental health across the continuum of cancer care. Cancer survivors who smoke cigarettes at the time of diagnosis experience worse clinical outcomes as compared to never or former smokers. Continued smoking after a diagnosis of cancer reduces the effectiveness and increases the risk of complications of cancer treatment, increases the risk of developing secondary cancer, reduces physical and mental quality of life, and overall survival. To maximize the wellbeing of the growing population of cancer survivors, positive changes in health behaviors such as smoking cessation are essential.

Purpose: Using population based data, the aims of the current study were (a) to identify the frequency of mental distress among cancer survivors; (b) to examine the association between receipt of social support, mental distress and smoking status among cancer survivors; and (c) to identify factors (socio-demographic and cancer-related) that are associated with smoking status among cancer survivors with and without mental distress. We further sought to identify cancer survivors who may require additional support in quitting smoking.

Methods: Data were obtained from the 2010 Behavioral Risk Factor Surveillance System (BRFSS), Cancer Survivorship module. The BRFSS is an annual, cross-sectional, state-based computer-assisted telephone survey administered in all 50 states of the U.S., and entities. In 2010, the cancer survivorship module was administered in 10 states and entities. Sample weights were applied to account for the complex survey design of the BRFSS and to provide population estimates. Descriptive statistics, percentages and 95% confidence interval (CI) for categorical variables and means and standard error (SE) for continuous variables, were conducted for all variables by distress group: infrequent mental distress and frequent mental distress. For examining the association between receipt of social support and smoking status, we constructed two separate multivariate multinomial logistic regression models for cancer survivors with infrequent and frequent mental distress. We estimated the adjusted odds ratios (AORs) with their corresponding 95% CI for each independent variable. Results were considered statistically significant if two-sided p-values were ≤ 0.05 .

Results: A total of 8,055 adult cancer survivors were included in the sample, corresponding to a population estimate of 2.6 million. In 2010, 15.6% (418,700) of the 2.6 million adult cancer survivors were current-smokers, 38.4% (1.03 million) were former-smokers and 46.0% (1.2 million) never-smokers. About 82.0% of the sample reported that they received social support always/usually. In the past 30 days, about 12% had experienced frequent mental distress. Approximately 47% were 65 years of age or older, 59.2% were female. Participants' mean age at the time of the first cancer diagnosis was 51.0 (SE=0.33) and the mean time since first primary cancer diagnosis was 11.3 years (SE=0.18). Compared with those in the infrequent mental distress group, cancer survivors with frequent mental distress were diagnosed at a younger age (45.0 vs. 51.8), and more likely to be current-smokers (36.8% vs. 12.7%). Among participants with infrequent mental distress, compared with the odds of being a former-smoker, the odds of being a current-smoker were lower for survivors who received social support always/usually (AOR: 0.64, 95% CI: 0.42-0.90). No statistically significant association was found between receipt of social support and smoking status among cancer survivors with frequent mental distress.

Conclusion: Smoking rates are lower among cancer survivors who receive social support and have low levels of mental distress. Psychosocial screening to identify smokers with high levels of mental distress may help to identify those who require more intensive smoking cessation interventions.

Poster Presentation Abstracts

Poster abstracts will be finalised weeks before the event

INCREASING TOBACCO CESSATION BEFORE SURGERY BY THE SYSTEMATIC DELIVERY OF A PRINTED BRIEF INTERVENTION DELIVERED TO PATIENTS AT TIME OF WAITING-LIST PLACEMENT

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Objective: To measure the effects of sending a smoking cessation 'quit pack' to all patients placed on the elective surgical waiting-list.

Design, participants, setting: Questionnaire-based study before intervention (mid-2011, 177 patients) and after (2012/13, 170 patients) conducted on day of surgery. All were identified as adult smokers at time of waiting-list placement at an outer-metropolitan public hospital IN Melbourne, Australia.

Intervention: Quit pack consisting of educational brochure containing cessation advice and focused on perioperative risks of smoking, together with Quitline referral form and reply-paid envelope.

Main outcome measures: Proportion of smokers who quit on waiting list for ≥ 1 -month before surgery; considered a clinically meaningful duration to reduce surgical complications. Recall of receiving the intervention. Recall of preoperative advice to quit from clinicians and others.

Results: An 8.6% improvement in waiting-list smokers achieving the target ≥ 1 -month abstinence at day of surgery ($p=0.03$). The NNT of 12 (95%CI 6-240) meant 12 smokers receiving intervention would create one additional episode of clinically meaningful quitting on wait-list. Recall of receiving stop-smoking advice from the health service rose 5-fold in smokers and 12-fold in wait-list quitters ($p<0.001$) and significant increases in discussion about perioperative quitting occurred with clinicians ($p<0.001$).

Conclusion: Elective surgery smoking cessation outcomes were significantly improved by systematic application of a simple printed intervention delivered at time of wait-list placement.

PREVALENCE OF SMOKING AND ITS RELATED BEHAVIORS AMONG ADOLESCENT SCHOOL STUDENTS, QASSIM, SAUDI ARABIA

Dr. Sultan Al Nohair, Dr. Fawzi Sharaf, Dr. Bazmi Inaam

Introduction

According to WHO tobacco smoking as an epidemic with an estimated 3 million deaths annually worldwide. This death toll is expected to rise to 10 million by the year 2020 or early 2030, if the current trends of smoking continues. Seventy percent of these deaths will occur in the developing countries.

Objectives

Prevalence of smoking -

- The most common age of starting smoking
- The most common place of smoking
- The most common reason for smoking
- Effect of the advice of the teacher on their decisions to stop smoking.

Subjects and Methods

cross sectional study conducted in 12 schools in Al Qassim province during January-June 2014. The schools were selected randomly by the help of General Directorate of Education in Qassim, Saudi Arabia. The questionnaire was developed according to international standards. Data collection tool was self-administered questionnaire.

Results

The prevalence of smoking among teenager high school students in our study was 23.6% by 161. The most common age of starting the smoking is 13 years by 56 students (34.7%). The most common place of smoking among the students is the place of their friend (Istraha) by 18%, followed by smoking in public places (16.8%), then inside the home by (16.1%). The lowest percentage for the places of the smoking is inside the school by (3%).

Discussion

Although Saudi Arabia does not grow tobacco or manufacture cigarettes, an average of 600 million SR (approximately US\$ 150 millions) are spent annually on tobacco. ⁽⁸⁾

Our study reported a higher prevalence rate as compared to other studies done previously in Saudi Arabia.

A study conducted in 1999 on male secondary school students in three region of Saudi Arabia reported a prevalence rate of 21.1% , Another study conducted in 1995, found the prevalence to be 17% among secondary school students in Riyadh. Another study in Riyadh ,Saudi Arabia show the most common of start smoking is 15 compare to our study which is 13 .

The most common reason to prevent the students from smoking is religion.

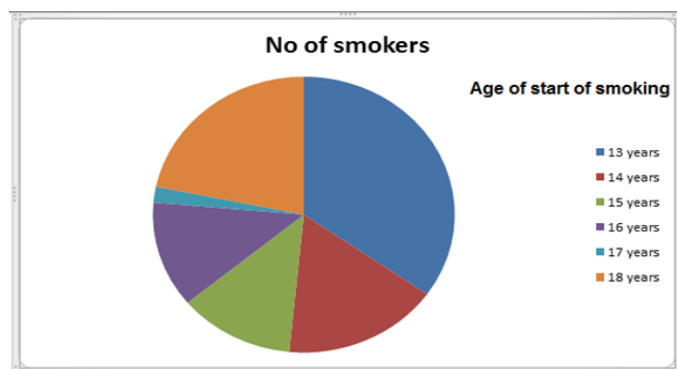
Studies in Gulf countries also shows high prevalence of smoking.

As in this study smokers confirms the most important age to start smoking is at 13 years. Ministry of health should start advising about the harmful effects of smoking in primary and intermediate schools classes.

Conclusions

The prevalence of the smoking is major public health problem among adolescents and to be considered a warning of an impending epidemic. Schools should have a greater role in health education. Government commitment and social support are vital if these programs are to be implemented and sustained.

School teachers to be a role model & leaders for anti-smoking campaign. Help in establishing a large number of satellite anti-smoking clinics and help in training of their staff.



CIGARETTE SMOKE-INDUCED INJURY TO HUMAN PULMONARY EPITHELIUM: MODULATION BY MESENCHYMAL STEM CELLS

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Background. Adult organism-derived mesenchymal stem cells (MSC) are regarded as a safe and valuable tool to correct certain disease mechanisms and pathologies, including Chronic Obstructive Pulmonary Disease (COPD). Whether MSC provide structural support and participate in the repair directly or whether they promote inner regeneration via paracrine mechanisms remains unclear. We have attempted to assess MSC capabilities to modulate a cigarette smoke (CS)-induced injury to human pulmonary epithelium cultivated in the native 3D matrix-based lung alveolar tissue model.

Materials and methods. Pulmonary epithelial cells (A549 line) were grown on decellularized native lung tissue matrix (post-mortem). Their viability and reactivity to CS extract was assessed in the presence of MSC secreted products (conditioned medium) or without. Epithelium-released cytokine profile and transcriptional factor's activation were also analyzed.

Results. MSC secreted products applied to alveolar tissue model cells ameliorate CS-induced inflammatory molecule release and minimizes inflammatory response. Changes detected in the native 3D matrix-based cultures differ from those from conventional flat cultures.

Conclusions. MSC are capable of modulating pulmonary epithelium reactivity to CS via their secretion products. Further *in vitro* studies on mechanisms of this modulation should be performed in carefully chosen study model, since conventional flat, native 3D and synthetic 3D platforms may deliver different results.

SMOKING AT THE TIME OF CURATIVE-INTENT LUNG CANCER SURGERY INCREASES PERI-OPERATIVE COMPLICATIONS: IS THERE A ROLE FOR ELECTRONIC CIGARETTES?

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Introduction: Smoking is a risk factor for postoperative pulmonary complications (PPCs) following curative-intent surgery for lung cancer. Risk modification is via smoking cessation services; whether surgery should be delayed for this and the role that electronic cigarettes (e-cigarettes) have in preoperative tobacco replacement are both debated topics.

Aims:

1. To study the impact of smoking on postoperative outcome including long-term survival.
2. To assess the current smoking habits and attitudes towards preoperative smoking cessation with emphasis on the use of e-cigarettes.

Methods: A prospective observational study was carried out on all patients following curative-intent lung cancer resection in a regional thoracic centre over 4 years. Preoperative smoking status was self-reported by all patients. PPCs were assessed daily in hospital using the Melbourne group scale (P.Agostini et al, Thorax 2010;65:815-8). Other data included patient demographics, hospital length of stay (LOS), intensive treatment unit (ITU) admission and mortality. To assess smoking habits, a questionnaire was given to 105 patients attending the preoperative assessment unit.

Results: Of 460 patients, 24% were current smokers, 12% ex-smokers <6 weeks, 53% ex-smokers >6 weeks, and 11% never smokers. Compared to never smokers, current smokers had significantly longer hospital LOS in days (9, CI 7-11 vs. 6, CI 4-8; $p < 0.001$), higher frequency of PPCs (22% vs 2%, $p = 0.001$) and ITU admissions (14% vs. 0%; $p < 0.005$). Compared to never smokers, the trend was for reduced survival in current smokers from 1-3 years, but the survival lines converged after this (median follow-up 30 vs. 31 months; $p = 0.31$). The questionnaire found 24/105 patients were smokers, of these 19/24 patients had previously tried to quit but only 9/24 had been specifically approached by health care professional about smoking cessation. When asked if they would consider stopping smoking immediately and using an e-cigarette (supplied free) 13/24 said yes.

Conclusions: Preoperatively, 1 in 4 patients continue to smoke, the majority (80%) have attempted to quit and failed. Current smokers have higher postoperative morbidity with no significant survival difference within our short follow-up period. Current methods of preoperative smoking cessation in this population are ineffective; patients appear to be willing to use e-cigarettes. Further research into effective short-term smoking abstinence services is urgently needed including the role of e- cigarettes.

A CROSS-SECTIONAL SURVEY ABOUT SMOKING BEHAVIORS AMONG DIFFERENT TAR- LEVEL CIGARETTE SMOKERS

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Smoking behavior is a comprehensive combination of smoking parameters, including puff frequency, puff volume, puff interval and duration. In order to understand the smoking behaviors of these smokers with different tar-level cigarettes, a cross-sectional survey was taken to conduct the questionnaire survey of citizens (age >18 years) in Chengdu, China. Data were analyzed by descriptive analysis, T-test, Chi-squared-test, One-way analysis of variance. The results showed that: 1) The average smoking amounts for high/moderate/low-tar smokers were (16.7±8.2), (15.7±8.4), and (15.4±12.5) cigarettes/day, respectively. No statistical significance was shown among these groups ($P = 0.572$, > 0.05). 2) Among the surveyed 328 smokers, no statistical significance in puffing intervals was obtained ($P = 0.443$, > 0.05). 3) Fourty smoker stated that the cigarette smoke only arrived in mouth, whereas 90 and 196 stated the smoke arrived in throat and lungs, respectively. 3) Suction depth did not show statistical significance among different tar-level cigarette smokers ($P = 0.934$, > 0.05). 4) As to the filter length, 124 smokers were using these less than 5mm, whereas 125 for 5mm-9mm and 77 for more than 10mm. 4) Filter length did not show statistically significant among different tar-level cigarette smokers ($P = 0.854$, > 0.05). 5) Approximately 67.4% (221/328) of smokers had changed their cigarette from both low tar-level to high tar-level and the

opposite. But the difference of cigarette amount before and after change did not show statistical significance ($P>0.05$). 6) Degree of nicotine dependence did not show statistical significance on different tar-level cigarette ($P>0.05$). The results showed that there was no significant differences in cigarette amount, puff interval, puff depth, nicotine dependence among different tar-level smokers. Low-tar cigarettes did not show significant effects on the smoking behavior.

DETERMINATION OF 4-(METHYLNITROSAMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK) AND N-NITROSONORNICOTINE (NNN) IN SIDESTREAM CIGARETTE SMOKE BY GC-MS/MS

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Tobacco specific nitrosamines (TSNAs) are a class of cigarette smoke constituents believed to play a potential role in smoking related carcinogenesis. Especially, 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK) and N-nitrososornicotine (NNN) are classified by the International Agency for Research on Cancer (IARC) as carcinogenic to humans (Group 1). Environmental tobacco smoke (ETS) is formed from cigarettes as sidestream smoke and exhaled mainstream smoke diffuse into ambient air. Sidestream smoke contributes 60~85% to the particulate matter of ETS and is a major source of NNK and NNN in ETS. The objective of this study was to develop a sensitive method for determining NNK and NNN in sidestream smoke using gas chromatography-tandem mass spectrometry (GC-MS/MS). A Cambridge filter coupled with a fishtail chimney was used to capture the particulate matter of sidestream smoke. The particulate matter was collected and then extracted with HCl solution (pH=1). Solid phase extraction was followed to reduce matrix interferences and to concentrate the sample extract. After that, the condensate dissolved in CH_2Cl_2 was analyzed by GC-MS/MS in the chemical ionization (CI) mode using multiple reaction monitoring (MRM). All requirements for method validation were met including linearity, accuracy, precision, limits of detection (LOD) and limits of quantitation (LOQ). In the concentration range of 1-100 ng/mL, the linear correlation coefficients of NNK and NNN were 0.9999 and 0.9998. The LOQ for NNK was 0.54 ng/cig and the LOQ for NNN was 0.87 ng/cig. Finally, this method was used for determining NNK and NNN in sidestream smoke of Kentucky reference cigarettes (3R4F, 1R5F). The measured values of NNK and NNN in sidestream smoke basically agreed with the results obtained from gas chromatography with thermal energy analyzer detection (GC-TEA) method.

HAZARDOUS COMPOUNDS EXPOSURE EVALUATION OF SMOKERS BY DIFFERENT TAR-LEVEL CIGARETTE IN CHENGDU, CHINA

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Tobacco industry tried to reduce hazardous compound exposure and health risk to the smokers by reducing cigarette tar, but it has been always suspected by the health authorities. In order to evaluate exposures of smokers to hazardous compounds from different tar-level cigarettes objectively and accurately, a clinical study on these smokers in Chengdu city was conducted using biomarker evaluation method. In this study, in total 418 urine samples from smokers of different ages, genders, careers with different tar-level cigarettes and non-smokers were taken, and then these samples were categorized into non-smoker group (105 samples), low-tar group (6mg/cig, 54 samples), moderate-tar group (8mg/cig, 63 samples) and high-tar group (11mg/cig, 196 samples). Biomarkers such as nicotine, tobacco specific nitrosamines, polycyclic aromatic hydrocarbons, 1,3-butadiene, acrylonitrile, acrolein, crotonaldehyde and benzene in urine were analyzed by HPLC-MS/MS. Results showed that, concentrations of total metabolites of nicotine, cotinine, tobacco specific nitrosamines, crotonaldehyde, acrolein, 1,3-butadiene, acrylonitrile and benzene in the urine of the low- and moderate-tar cigarette smokers were significantly lower than that of the high-tar cigarette smokers. Whereas, polycyclic aromatic hydrocarbons concentrations did not show significant difference between non-smokers and smokers with different tar-level cigarettes. It indicated that reducing tar content could decrease the exposure to nicotine and several hazardous compounds.

MATERNAL SMOKING DURING PREGNANCY AND DAUGHTERS' RISK OF GESTATIONAL DIABETES AND OBESITY

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Abstract

BACKGROUND: Adverse health effects of prenatal exposure to maternal smoking may persist until adulthood. For example, Norwegian women exposed to tobacco smoke in utero were at higher risk of developing gestational diabetes (GDM), and whether this association is present elsewhere is an open question.

AIMS: To study the risk of developing gestational diabetes in women who were exposed to tobacco smoke in utero. Secondary aims were to assess the risk of obesity and non-gestational diabetes.

METHODS: Data were retrieved from the Medical Birth Register of Sweden for women who were born in 1982 (smoking data first registered) or later and who had given birth to at least one child; 80 189 pregnancies were included. The associations between in utero smoking exposure (three categories: non-smokers, 1-9 cig/day [moderately exposed], and >9 cig/day [heavily exposed]) and subsequent gestational diabetes (n=291), non-gestational diabetes (n=280) and obesity (n=7309) were assessed.

RESULTS: The adjusted odds ratios (aOR) of gestational diabetes were increased among women who were moderately (aOR 1.63, 95% confidence interval (CI): 1.24-2.13) and heavily exposed (aOR 1.52, CI: 1.12-2.06). The corresponding odds ratios of obesity were (aOR 1.36, CI: 1.28-1.44) and (aOR 1.58, CI 1.48-1.68), respectively. A reduced odds ratio for non-gestational diabetes was seen in the offspring of heavy smokers (aOR=0.66, CI: 0.45-0.96).

CONCLUSION: Women exposed to smoking during fetal life were at higher risk of developing gestational diabetes and obesity.

MOTIVATIONAL TOOL FOR COPD PATIENTS DIAGNOSED DURING A SMOKING CESSATION PROGRAM

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COPD is a significant and growing cause of morbidity and mortality with smoking being recognized as its most important causative factor. Among all treatment options, smoking cessation is the most effective in all stages of the disease since it is the only intervention that has been shown to slow down its progression. However, many patients with COPD, especially those with mild to moderate disease, remain undiagnosed until they reach advanced stages of the disease when pulmonary function is significantly compromised. Spirometry is the most common diagnostic method for detecting airway diseases in susceptible smokers. It is unclear if biochemical risk assessment such as interpretation of spirometric results, can help smokers to quit.

We proposed a new motivational approach for COPD patients after being diagnosed. We found increased abstinence rates at 3 months after quit date.

Methods

551 current smokers aged ≥ 18 years old, of both genders, attended voluntarily the smoking cessation program. A thorough physical examination, Fagerstrom test and spirometry was performed. When a smoker when diagnosed from COPD a thorough lung age presentation was made and used as a motivational tool for smoking cessation.

At the end of the first visit, a target quit date was set (10-15 days later) and the smoker was allocated to the most effective smoking cessation treatment - varenicline for 12 weeks (0.5mg once daily for the first 3 days, 0.5 mg bd for 4-7 day and 1 mg bd for the rest 11 weeks). The follow-up was very intensive, with 1 to 2 weeks intervals, up to the end of pharmacological treatment (12 weeks)..

Results

Among 551 smokers, 5 had already a history of chronic obstructive pulmonary disease, previously diagnosed by a physician (2 with stage II, 2 with stage III and 1 smoker with stage IV).

Additional 81 smokers (14.5%) were newly diagnosed during our Smoking cessation A smoking cessation program is a practical way to identify new cases of COPD by applying spirometry in all smokers regardless of any referred respiratory symptom. When classified according disease severity, we found that 39 of them belonged to stage I (48.1%), 33 belonged to stage II (40.7%) and 9 (11.1%) to stage III.

The sex distribution among the 86 COPD smokers was almost 1:1 (46 men and 39 women) with a median age of 56 years old. They were highly addicted (Fagerström nicotine dependence score >7) as most of smokers in Greece.

The continuous abstinence rates at 3 months for smokers in our clinic was 55% (n=303). The corresponding abstinence rates for COPD smokers according to the disease severity are STAGE I: 76.9%, STAGE II 85.7%, STAGE III: 63.6%, STAGE IV: 100, MEAN: 79%

Conclusion

We conclude that smoking cessation is the most effective intervention in stopping the progression of COPD, as well as increasing survival and reducing morbidity. This is why smoking cessation should be the top priority in the treatment of COPD. On that aspect we could take advantage of the COPD diagnosis during a smoking cessation program to enhance smoking cessation rates and therefore maximize smoking cessation benefits by combining pharmaceutical treatment, vaccination and prevention of exacerbation.

THE NEED TO PROVIDE SMOKING CESSATION SERVICES TO PREGNANT WOMEN IN GREECE.

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Background: Active and passive maternal tobacco smoking during pregnancy and childbirth is undoubtedly the most important preventable cause of a variety of unfavorable pregnancy outcomes. Several adverse pregnancy outcomes include preterm birth and low infant birth weight are ascribed to both active and passive maternal smoking with the latter being an outcome of an intrauterine growth retardation, miscarriage, stillbirth and sudden infant death syndrome (SIDS). Despite being routinely informed of the aforementioned risks, at least one third of women will continue to smoke during pregnancy. Quitting active smoking does not solve the puzzle as, many more pregnant women will continue to be exposed to tobacco smokes in passive-smoking environments. Smoking is Greece's largest public health threat. Greece has one of the highest adult smoking prevalence among all E.U countries. Moreover most women, who quit smoking during pregnancy without following quitting programs from smoking cessation clinics, usually resume smoking within 6 months after delivery. Thus they usually prefer not to breastfeed their newborns in order to continue smoking. In addition they underestimate the exposure of their newborns to passive smoke and "aged tobacco smoked".

Aim: To explore the perceptions, and behaviors pregnant women in the Athens area towards active and passive tobacco smoking. Specifically, we i) measured and estimated the proportion of women exposed to tobacco smoke (active/ passive) during pregnancy ii) examine the differences between pregnant smokers and non smokers with postnatal depressive symptoms and other factors like neonatal problems, partner smoking habits iii) examine the perceptions and attitudes about smoking during perinatal period.

Method: We recruited women from the perinatal care registers of the Maternity Departments of 2 hospitals in Athens municipality (public maternity departments) between February 2013 and May 2013. Data on active and passive maternal smoking status in the first, second and third trimesters of pregnancy, maternal environmental tobacco smoke exposure at home and work, pregnant women's experiences and beliefs towards smoking cessation during pregnancy were collected using self-administered questionnaires on 3rd postnatal day. Mothers also completed the Edinburgh Postnatal Depression Scale (EPDS) questionnaire. The risk perception, attitude toward smoking during pregnancy, smoking behaviors, and behaviors for avoiding passive smoking were compared between current smokers and quitters.

Results: 337 mothers (just after delivery) participated in the study (300 included in the analysis). 48% (n=144) were smokers in the beginning of the pregnancy. Among smokers, 83,3% (n=119) tried to quit but less than half of them (n=64, 45,1%) managed. Thus, finally 221 (73.7%) of total sample reported being smoke-free during pregnancy. 21.7% (n= 65) of women had quit during pregnancy and 26.3% (n= 79) continued to smoke during pregnancy. Among women who continued to smoke during pregnancy most [55.8% (n=44)] reported they felt they were unable to quit, 25.6% (n=20) reported they did not want to stop, and 9.3% (n=7) reported that they did not consider smoking cessation as vital health issue. The harmful effects of smoking during pregnancy in fetus ($\chi^2=11.41$; $df=5$; $p<0.05$) and newborn ($\chi^2=6.41$; $df=2$; $p<0.05$) were confirmed in our study. Smoking status of the partner increased the possibility of the pregnant to smoke throughout pregnancy ($\chi^2=14.62$; $df=1$; $p<0.001$). The mean EPDS score for smokers was 9.72 (SD=6.28; Std Error Mean 0.52) and for non-smokers 8.04 (SD=5.17; Std Error Mean 0.41). Pregnant smokers had significantly more postnatal depressive symptomatology as measured using the EPDS than non-smokers [Levene's Test for equality of variances and homogeneity ($F=43.059$, $p=0.0005$) ($t=2.403$ $df=298$ Sig.(2-tailed)=0.0005].

Conclusion: Although most women chose to stop smoking during pregnancy, a significant percentage continued to be exposed to passive tobacco smoking environments. This is mainly due to underestimating fetal health risks from active and passive smoking. Therefore it is essential that pregnant women, their partners and close relatives are adequately informed on the health risks of active and passive smoking for fetal, pregnant and infant outcomes. Only smoke-free environments will sufficiently promote optimal perinatal health for the woman her fetus/newborn.

Smoking cessation programs and clinics should be introduced in maternity hospitals and with specially trained staff in Greece.

Day 2:

Invited Speakers Abstracts

Building Scientific Capacity for Tobacco Control in Central and Eastern Europe

Dr Kristie L. Foley, Ph.D., Professor and Associate Director, Medical Humanities Program, Davidson College, Davidson, NC, USA

The purpose of this talk will be to describe the opportunities and challenges of building scientific capacity for tobacco control in Central and Eastern Europe. Building on eight years of experience in Hungary and Romania, funded by the Fogarty International Center and the National Cancer Institute (USA), our team has successfully built scientific capacity in Hungary by using an in-depth mentoring framework sponsoring rigorous and relevant interdisciplinary tobacco research. We are currently using the same capacity building framework in Romania. Our outcomes include science, practice, and policy to build a tobacco control scientific network in CEE.

An Environmental Approach to Tobacco Product Regulation: Banning Filters

[Dr. Thomas E. Novotny](#), Professor of Global Health, Graduate School of Public Health, San Diego State University, San Diego, CA, US

This presentation will present the case for an environmental policy approach to tobacco control, focusing on tobacco product waste (TPW). A range of policy options to prevent, mitigate, and reduce the environmental impact of TPW will be discussed, based on the principles of Extended Producer Responsibility and Product Stewardship. Specifically, the case will be made to ban the sale of filtered cigarettes, as filters provide no health benefit and are the main non-biodegradable component of TPW. Such product regulation may also substantially reduce cigarette consumption and inhibit uptake of smoking by children, while eliminating a major source of environmental blight.

Oral Presentation Abstracts

SUBJECTIVE CULTURES, SMOKING, ALCOHOL AND THE INTERNET DEPENDENCE

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Cross cultural, ethnographic, anthropological studies, as well as research in the field of developmental and cultural psychopathology, give evidence in support of the idea that “context” (interpersonal environment, conventional social structures, social norms, socio-economic variables, cultural factors) plays a main role in defining which expression of distress is accepted or sanctioned (Draguns, 1995; Gone & Kirmayer, 2010). Different studies show how acculturation plays an important role in the initiation and maintenance of a number of mental illnesses (Oei & Raylu, 2009).

According to the cultural standpoint, our work focuses on the role of the subjects’ cultures in many types of problematic repetitive behaviors, like smoking, alcohol and internet addictions.

The term “subjective culture” can be originally found in Triandis (1972, 2002). According to the author, subjective culture includes ideas about how to live properly and how to behave in relation to objects and people. However, whereas for the author subjective culture is a “characteristic way of perceiving its social environment” by *society* (Triandis, 1972, p. viii, 3), we recognize that many subjective cultures may be expressed within the same society (Venuleo, Salvatore, & Mossi, 2014; Venuleo, Mossi, & Salvatore, 2014; Venuleo & Marinaci, forthcoming).

Previous studies in the Italian context have already provided evidence that subjective cultures, through which people interpret their social environment, play a major role in differentiating heavy drinkers, as well as pathological gamblers, compared with a control group (Venuleo, Salvatore, & Mossi, 2014).

The current study assessed whether smoking dependent subjects express different subjective cultures compared with alcohol dependent subjects and internet dependent subjects.

Our hypothesis is that subjective cultures also play a role in differentiating various kinds of addiction, having different implications for individuals’ social adapting. Participants, recruited in three different contexts (public health services for the treatment of addiction, casino, undergraduate course) were subjected to the Cigarette Dependence Scale (CDS) (J-F. Etter, J. Le Houezec & T. V. Perneger 2003), the Alcohol Use Disorders Identification Test (AUDIT) (World Health Organization 1993), the Internet Addiction Test (IAT) (K. Young 1998), and the Questionnaire on the Interpretation of the Social Environment (QUISE) (Mossi & Salvatore 2011), in order to investigate the subjective cultures.

Two different logistic regressions were applied in order to estimate the capability of the QUISE scores to differentiate smoking dependent subjects from alcohol dependent subjects and internet dependent subjects.

Consistent with the hypothesis, the results show that smoking dependent subjects express a different way of connoting the social environment, when compared with alcohol dependent and internet dependent

subjects. The former depict the environment as positive and reliable, while the latter depict it as negative and unreliable. Implications for prevention and intervention efforts are discussed.

POTENTIAL MOLECULAR AND ULTRASTRUCTURAL CHANGES IN RAT SPERMATOGENESIS AFTER INHALATION OF *BOSWELLIA PAPYRIFERA* AND *BOSWELLIA CARTERII* INCENSE

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Aim of the study was to determine the effect of *Boswellia papyrifera* (*B. papyrifera*) and *Boswellia carterii* (*B. carterii*) smoke exposure on spermatogenetic cycle and sperm kinetics in male albino rats. Rats (n = 11) were exposed daily in smoking chambers (Cage size: 24 × 24 × 18 inches) to smoke emanated by burning 4 g each of either *B. papyrifera* or *B. carterii* for 48 days. At the end of exposure duration rats were killed, and the testes were excised and analyzed for histopathological and ultrastructural changes. Sperm analysis including total sperm count, motility, velocity and relative percentage of abnormal sperms were recorded. Rats exposed to *B. papyrifera* and *B. carterii* showed significant disturbances in spermatogenetic patterns and changes in sperm kinetics compared to unexposed rats. Atrophied seminiferous tubules with dynamic changes were also noticed. The boundaries of intercellular and intracellular vacuoles were seen in the Sertoli cells. Furthermore, in spermatids acrosomal vesicles were not fully formed. Degenerating spermatids were devoid of their nuclear membrane with electron dense matrix and vacuolization. Structural changes in Leydig cells were observed. Sperm analysis in exposed rats exhibited significant decrease in the sperm count, motility, speed and an increase in sperm anomalies when compare to controls. These findings demonstrate that the *B. papyrifera* and *B. carterii* smoke affects the process of spermatogenesis and sperm parameters and indicate the detrimental effects of these incense materials on human reproductive system.

IS SMOKING OR ENVIRONMENTAL TOBACCO SMOKE A RISK FACTOR FOR HUMAN PAPILLOMA VIRUS (HPV) CARRIAGE AMONG OLDER ADOLESCENTS?

By Philip Kum-Nji, MD, MPH*, Lori Keyser-Marcus, PhD, Linda Meloy, MD

Background and Hypothesis: Known predictors of HPV carriage among adolescents have not been well elucidated. Cigarette smoking and/or exposure to environmental tobacco smoke (ETS) is well known to be a risk factor for various infections. We hypothesized that cotinine levels (a biomarker of smoking or environmental tobacco smoke) would be predictive of early HPV carriage among female adolescents.

Design/Methods: The National Health and Nutrition Examination Survey (NHANES) Data from 2007 to 2010 were used in the analysis. Abstracted variables included Roche HPV PCR linear array, number of lifetime sex partners, age at screening, race, household income, number of people in household, history of any HPV immunization, and cotinine levels.

Results: A national representative sample of 120 older adolescents 18-19 years of age with complete information was included in the analysis. About 40% of the study population had cotinine levels in the non-exposed and non-smoking range, 39% were in the exposed range while 21% had cotinine levels in the smoking range. The overall HPV carriage rate was 50.7% among the study population. Rates of HPV carriage were lowest (23.6%) for unexposed adolescents (serum cotinine levels <0.05ng/mL), 56.9% for those exposed (serum cotinine levels between 0.05-15ng/mL), and highest (89.7%) for those whose cotinine levels were in the smoking range (>15ng/mL, p<0.001). In a multiple logistic regression analysis adolescents who smoked or were exposed to ETS were more than 7 times more likely to be positive for HPV than their unexposed and non-smoking counterparts (OR=7.75; 95% CI=2.25-26.32) even after controlling for lifetime number of sex partners, income, age of adolescent, HPV immunization, and race.

Conclusions: At least 50% of 18 and 19 year old adolescents are carriers of HPV. Cotinine level in the exposed or smoking range was strongly associated with HPV carriage among older adolescents 18 and 19 years old.

*Presenter

CHANGING OF SMOKING HABITS AND THE POLITICAL BACKGROUND IN HUNGARY

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Our study utilizes national survey from 2000 to 2013 to indentify smoking habits in Hungary during the past decade. According to our analysis the smoking rate in Hungary decreased from 34% in 2000 to 29% by 2012, which corresponds to the European average. The proportion of male smokers (2000:41%; 2012:34%) shows a more significant decrease, while the proportion of female smokers (2000:26%;

2012:25%) stagnates. Increased risk of smoking predominantly affects people with low levels of education (34%), those facing economic hardship (45%), the 17-34 (30%) and 35-64 (33%) age group. There was a small local survey with less number of participants in 2013. The result has shown a decreasing ratio of smokers. The European Population based Health Survey will give more exact and actual data in May, 2015. A decline in smoking habits may be attributed to the government's restrictive smoking measures. In Hungary, the first law on the regulation of smoking and distribution of tobacco products was adopted in 1999. The weak sanctions however impaired the impact of the regulation. In 2005, the Hungarian Parliament ratified the WHO FCTC and in 2011, tightened the 1999 law. Since then, smoking has been prohibited in enclosed public places (restaurants, bars, workplaces, schools, hospitals, etc.). The sale of tobacco products has been restricted (prohibited to sell tobacco to people under 18 years of age, and the points of sale has declined from 40 000 to 5000). Tobacco product tax increase has resulted in rising prices (the price of one pack of Marlboro has risen from 3 USD to 4 USD). A methodological and educational center has been established for cessation and 86 pulmonologist led smoking cessation points have been organized in the pulmonary outpatient clinics. Owing partly to these achievements, Hungary has ascended from the 27th to the 11th place during the past four years among 30 European countries, based on restrictive smoking measures.

MEASURES FOR ASSESSING TEST-RETEST RELIABILITY OF SMOKING BEHAVIORS IN NATIONAL SURVEYS

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ABSTRACT

The purpose of this presentation is to address issues arising in reliability studies of smoking behaviors. The talk will be based on my experience of assessing the data quality of Tobacco Use Supplement to the Current Population Survey, the key source for obtaining the smoking prevalence rates in the U.S. The collaborative research had multiple goals and stages. I will discuss how one can define measures suitable for assessing data consistency for outcomes that may change over time, e.g., smoking status, and the corresponding statistical and computing methods for complex survey data analysis that can be used for assessing the proposed reliability measures. Examples concerning smoking status, time since smoking cessation and smoking initiation age will be provided. Issues concerning respondent mode (self, proxy) and proper adjustments for respondent and survey characteristics will be discussed.

SMOKING PREVALENCE AMONGST PATIENTS WITH FIRST EPISODE PSYCHOSIS

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Background:

Multiple studies have shown that there is a high prevalence of smoking amongst persons who have been diagnosed with schizophrenia. Patients who have been diagnosed with schizophrenia-spectrum disorders are more likely to be smokers than those with other psychiatric diagnoses as well as those in the general population. These high rates have led some researchers to believe in the possibility that the co-occurrence could be because of a shared genetic factor that underlies both schizophrenia and nicotine addiction. While there has been extensive research studies dedicated towards the damaging effects of smoking, few studies have been done with smokers with first episode psychosis (FEP) and how it affects the onset, course as well as treatment outcome. This paper aims to, firstly, establish the prevalence of smoking in a cohort of first episode psychosis patients and to, secondly, determine if smoking affects the onset and establish socio-demographics and clinical co-relations of smokers with FEP.

Method:

The data from the present study was utilised from the baseline measures of the Smoking, Alcohol and First Episode Psychosis study – a longitudinal study involving a 6 month and one year follow-up. Fifty-nine patients were recruited within the first three months of their acceptance into the Early Psychosis Intervention Program (EPIP) and completed a self-administered a survey on an iPad. The questionnaires collected data of their socio-demographics as well as smoking status. The Fagerstrom Test for Nicotine Dependence was also administered.

Results:

A total of 18 participants (30.5%) had been smoking in the past year with 23 of them (39%) having tried smoking at least once in their lives. Significant predictors were males and those with lower education. While not statistically significant, Malay participants were more likely to be smokers compared to the other ethnic groups. A slight difference was also seen in the mean age of psychosis onset between the smoking and non-smoking groups ($M = 25.11$ and $M = 25.06$, respectively). A trend was also observed in the Positive

and Negative Syndrome Scale (PANSS) scores in terms of the Baseline Positive, Negative and General Psychopathology symptoms score, where smokers scored marginally lower.

Discussion & Conclusion:

Smoking prevalence amongst patients with FEP was found to be nearly double compared to the general population of Singapore (16%). The identification of FEP patients who are current smokers is essential for targeting them for appropriate smoking cessation programs and interventions for the duration of their treatment. Early prevention at this stage can subsequently reduce some of the morbidity associated with schizophrenia.

Poster Presentation Abstracts

Poster abstracts will be finalised weeks before the event

EMPHASIZING THE EFFECTS OF SMOKING DURING RADIOTHERAPY DECREASES TOBACCO USE IN CANCER PATIENTS UNDERGOING IRRADIATION

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Background: To quit smoking is difficult. In a previous study, we found that about 30% of cancer patients were active smokers at the initiation of their radiotherapy. Support was provided to only 25% of them. Few cancer patients scheduled to receive cancer treatment are aware of the effects of tobacco use on the efficacy and side effects of their treatments.

Aim: The aim of the present study was to evaluate the effects of an illustrated folder emphasizing the beneficial effects of smoking cessation given to smokers scheduled to receive radiation treatment.

Material and methods: After Ethics Committee approval and individual consent were obtained all smoking cancer patients were proposed to take part in this prospective randomized study. At the time of simulation (i.e. the preparation step of the radiation treatment process), each patient filled a form about his/her tobacco use, about his/her knowledge of the effects of smoking during radiotherapy, about the support to stop smoking he/she was proposed and his/her wish to quit. Thereafter all patients received a standard form explaining the treatment, the potential benefits and side effects of radiotherapy as well as providing some advices. Then, patients were randomly assigned to one of two groups. Patients allocated in group + received an additional folder emphasizing the effects of smoking cessation before and during radiation treatment whereas patients in group - did not. At the first treatment session, i.e. 1 to 3 weeks later, the tobacco consumption of all patients was assessed. Assistance was provided to any patient who was willing to quit. The tobacco behaviour in both groups was compared using Fisher's Exact Test. All results were considered to be significant at the 5% critical level ($p < 0.05$).

Results: From April 1st to August 11 2014, 304 patients underwent a radiation planning session. 92 (30%) were active smokers. 75 consenting patients were included in the study. 21 (28%) had been proposed some support to quit smoking. 55 (73%) were willing to stop smoking and 35 of these 55 (64%) were looking for help. 80% of the patients didn't know that smoking could alter the outcome of the radiation treatment. More patients in group + (21/38; 55%) quitted smoking or cut down than in group - (5/37; 14%). This difference was significant.

Conclusion: Many smokers scheduled to undergo radiation therapy are unaware that smoking can alter the outcome of the treatment. Most of them received neither information nor advice about tobacco use during radiotherapy. A folder emphasizing the benefits of quitting smoking before radiation treatment increases the rate of smoking cessation or cut down in cancer patients.

HEALTH INTERVENTIONS IN STUDENTS IS AN IMPACTING STRATEGY ON SMOKING CESSATION PARENTS

Dra SMR Oyama University Center Priest Anchieta / University July Nine – Brazil; CJM Pinto Ms Center Priest Anchieta – Brazil; MMD Rodrigues exp. Center Priest Anchieta – Brazil; B Caramelli Phd Heart Institute and Vascular Surgery Department, University of São Paulo Medical School, São Paulo, Brazil; LS Fornari Phd Heart Institute, University of Sao Paulo, Medical School – São Paulo, Brazil; silviaoyama@yahoo.com.br

Tobacco smoking is one of the main risk factors for developing heart diseases. Due to the mortality profile of the diseases, it makes necessary to set strategies to control it. Teaching places are one of the propitious places to take actions on health focused on the tobacco controlling because it's in school where students spend most of their time. The hypothesis of this study considers that the pedagogic interventions on education on heart health among students from 6 to 10 years old may contribute to diminish the nicotine dependence of parents and consequently the cardiovascular risk. This study aimed to evaluate the

effectiveness of education actions held among students by an evaluation of their parent's dependence on nicotine before and after the intervention. It's a quantitative, descriptive and longitudinal study, held on a city in the state of São Paulo, Brazil, in 2012. Pedagogic interventions were made centered on the interest of preventing heart diseases for a year. After approved by the ethic committee, the students from the controlling school received written orientation related to smoking cessation. At the intervention school, weekly meetings of 1 hour were held with the students and the nurse team for a year. The interventions were based on ludic educative strategies in health. In the intervention group, 42 smokers joined the study while 38 joined the controlling group. The Fagerström Nicotine Dependence Test was used for the survey data. In the intervention group, among 34 smokers, 4 (11,8%) of them have ceased smoking. In the controlling group, 2 (6,9%) out of 29 smokers have quit. Analyzing this data, a statistic difference is not perceived, ($P=0,678$). Test "Fisher exact test", $p=0,05$. In the controlling group there was an increasing of dependence in 2 (6,9%) people, while in the intervention group 5 (14,7%) parents have diminish their nicotine dependence. The data in the literature showed assorted rates of effectiveness according the chosen strategy. It's estimated that 13,9% from the group attendance and 16,8% from the individual attendance have refrained from smoking. Although the data found in the research are not statistically significant, this strategy has an impact in the behavior changing that motivated them to quit smoking. It's worth noting that the average found in literature for direct strategies with smokers varies from 20 to 40 per cent, as in this study the intervention was done directly. Considering that tobacco use includes chemical, psychological and behavioral dependency, it's concluded that the strategy was directed to children, the presented result shows that this strategy can be an impacting manner on the smoking cessation in the country.

Key words: Smoking Cessation, scholl, health education.

MATERNAL SMOKING DURING PREGNANCY AND OFFSPRING TYPE 1 DIABETES MELLITUS RISK – ACCOUNTING FOR HLA HAPLOTYPE

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Abstract

BACKGROUND: There are indications that maternal smoking during pregnancy is associated with a decreased risk for their children to develop type 1 diabetes (T1D), however, earlier studies have not accounted for the genetic risk of the disease.

AIMS: The main objective of this study was to study the risk of type 1 diabetes mellitus (T1D) in children exposed to tobacco smoking in utero, also taking genetic predisposition as expressed by HLA haplotype into account.

METHODS: In Skåne, the southernmost county of Sweden, all children who develop T1D are registered. During the years 1999-2005, 84 039 children were born in Skåne and by 1st of May 2013, 344 of those had developed T1D. For each child with T1D, three control children, matched for HLA haplotype and birthyear, were selected from the Diabetes Prediction in Skåne study, a prospective study where children from the general population born in Skåne during 2000-2004 were invited to participate. Information on prenatal smoking exposure was retrieved from a regional birth register. Conditional logistic regressions were used to evaluate T1D risk following prenatal smoking exposure.

RESULTS: Maternal smoking in early pregnancy was associated with a higher risk of the child developing T1D (odds ratio [OR] 2.83; 95% confidence interval [CI]: 1.67 -4.80] for 1-9 cigarettes/day, and OR 3.91; 95% CI: 1.22-12.51] for >9 cigarettes/day.

CONCLUSION: When genetic predisposition in terms of HLA haplotype was taken into account, we found that children exposed to smoking during fetal life were at higher risk of developing T1D in childhood.

THE ASSOCIATION OF WATERPIPE SMOKING WITH CORONARY ARTERY CALCIUM SCORE IN A COMMUNITY BASED SAMPLE

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Rational: The evidence linking waterpipe smoking to cardiovascular disease is limited. The waterpipe smoking epidemic is recent and the cardiovascular effects of smoking are often latent. It is therefore advantageous to examine the association between waterpipe smoking and measures of sub-clinical cardiovascular disease. Coronary artery calcium score (CAC) is a validated predictor of cardiovascular events (myocardial infarction and death) independent of other risk factors.

Objective: To evaluate the association of waterpipe smoking with CAC an established marker of coronary artery disease (CAD) risk in a community-based sample.

Methods: Cross-sectional community-based study including 220 exclusive daily waterpipe smokers and 220 never-smokers age 40 years or older recruited from the community in Beirut and Doha. Smoking was assessed using a validated questionnaire and urine cotinine levels. CAC was assessed using cardiac gated chest CT. The study is funded by Qatar National Research Foundation.

Results: To date CAC was assessed in 77 waterpipe smokers and 50 never-smokers who are included in this analysis. The average age and BMI in smokers and non-smokers were 54.1 vs. 51.2 years and 30.7 vs. 29.4 Kg/m² respectively. 40.3% of waterpipe smokers were females vs. 42% of non-smokers. Smokers reported smoking on average 2.3 waterpipes per day over an average duration of 27.7 years for an average of 61.0 waterpipe years.

The average CAC was 182.8 Agatston unit (SD 610.9) in waterpipe smokers and 56.2 Agatston unit (SD 199.8) in non-smokers; however, the difference between smokers and non-smokers did not reach statistical significance. The average individual artery CAC were also higher in waterpipe smokers compared to non-smokers although the difference did not reach statistical significance.

Using absolute CAC thresholds to categorize CAD risk, 27% of waterpipe smokers had CAC in the intermediate to high-risk category (>100 Agatston units) versus 12.0% of non-smokers (p=0.04).

The frequency distribution of waterpipe smokers and non-smokers along CAD risk categories defined by age, sex and race predicted CAC are presented in the below table.

% Predicted CAC score for age, sex and race	Smoker N (%)	Non-Smoker N (%)	P-Value
Low risk (<25%)	38 (49.4%)	37 (74.0%)	0.025
Low intermediate risk (25 - 49%)	4 (5.2%)	3 (6.0%)	
Intermediate risk (50 - 74%)	14 (18.1%)	5 (10.0%)	
High risk (≥75%),	21 (27.3%)	5 (10.0%)	

Conclusion: In a community-based study, waterpipe smokers had a higher CAD risk as defined by percent predicted or absolute CAC compared to non-smoker. The absolute CAC were also higher in waterpipe smokers compared to non-smokers but the difference did not reach statistical significance. A larger study is warranted to better assess this association and adjust for potential confounders.

THE ASSOCIATIONS BETWEEN SMOKING CESSATION FAILURE AND OCCUPATIONAL CATEGORIES

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Background: Smoking cessation is a challenging issue in the occupational setting. However, few researches have examined the related factors of smoking cessation concerning the occupational background. The aim of our study is to analyze the failure factors among male workers in diverse occupation so to provide the base data in the smoking-free policy establishment.

Methods: The data were obtained from the Korea National Health and Nutrition Examination Survey collected from 2010 to 2012 (n=25,534). Of these, the eligible population consisted of 19-60 year-old male workers who had attempted smoking cessation (parent population, n=3920). The variables including age, education, social economic status (SES), exercise, alcohol, working hour, marriage status and occupational category were evaluated. The job category variable including 10 items was classified to 3 subcategories; "office work", "service or sales", and "manual work". The age was stratified to two subgroups; the younger

group (19-40) and the elder group (41-60). All data were analyzed performing student *t* test, *Chi-square* test and logistic regression. All were analyzed using SAS version 9.3.

Results: The smoking cessation failure rate of the population was 44.6%. To evaluate the association between cessation failure and the job difference, odds ratio (OR) were estimated using multiple logistic regression adjusted for age, education, SES, exercise, alcohol intake, marriage status and working hour. In the younger group, when compared to those involved in the “office work”, people engaged in the “service or sales” and “manual work” were more likely to fail in quitting smoking. While the subcategory “office work” being the reference group, the OR of smoking cessation failure of category “service or sales” and “manual work” were 2.031(95%CI=1.266-3.259) and 1.374(0.929-2.033) respectively. However, the elder group showed the opposite trend. The OR of smoking cessation failure of category “service or sales” and “manual work” were 0.587(0.389-0.885) and 0.844(0.593-1.200) respectively. Another cessation failure factor showing significance in the younger group was lower SES (OR 1.897; 1.218-2.956). In the elder group, age (0.96; 0.939-0.983), lower education (1.530; 1.108-2.114) and alcohol intake (2.061; 1.386-3.065) were also associated with the cessation failure.

Conclusion: The smoking cessation failure is linked to job categories with age stratification. We provide quantitative evidence supporting the policy makers and the clinicians to establish the influential smoking-free policy in the work place. Further studies including the focus group evaluation are needed.

EVALUATION OF TOBACCO SPECIFIC NITROSAMINE EXPOSURE BY QUANTIFICATION OF 4-(METHYLNITROSAMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK) IN HUMAN HAIR OF NON-SMOKERS

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Tobacco specific nitrosamines (TSNAs) are potent carcinogens present in tobacco products as well as smoke. Monitoring exposure to TSNAs has been mainly achieved by quantifying total 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol (NNAL) either in serum or urine.

However, other matrices are better suited for monitoring chronic tobacco exposure (i.e. hair or nails). The very low concentrations of NNAL present in those matrices have prevented its widespread detection, particularly in samples from non-smokers. Smoke-free laws have made the detection of those biomarkers in exposed or even non-exposed non-smokers very relevant, thus fostering research to find proper ways of monitoring exposure.

NNAL has been detected in concentrations in the range of 0.04-4 pg/mg toenails from smokers, while samples from non-smokers resulted undetectable[1]. Another carcinogen *N*'-Nitrosoornicotine (NNN) was also found in the same samples in concentrations below 5 pg/mg [2].

Hair is an ideal matrix to monitor chronic exposure to tobacco smoke. It is easy to obtain, stable, and provide great retrospectivity. Absorption into the hair matrix is greatly dependent on the chemical structure of the compound with basic or less polar compounds better suited for its detection.

NNAL has been detected in concentrations in the range of 0.27-0.67 pg/mg in hair from smokers [3]. We herein present our results regarding the detection and quantification of NNK in hair samples from non-smokers as an ideal biomarker of TSNAs exposure. Concentrations ranged 0.1-7.8 pg/mg while NNAL was undetectable (below 0.06 pg/mg) in all samples. NNN was also detectable but only in a small percentage of the samples.

In conclusion, the results of the study have resulted in the identification of NNK as the best marker of TSNAs exposure in samples from non-smokers, including non-smokers low exposed individuals.

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Day 3:

Invited Speakers Abstracts

Smoking Cessation and Reduction In Pregnancy Treatment (SCRIPT): Progress or Purgatory

Dr. Richard A. Windsor, MS PhD MPH, School of Public Health and Health Services, George Washington U. Medical Center, Maryland, USA

The Biomonitoring of Benzene and Nicotine Exposure Contributes to Motivation of Smoking Cessation Programs Participants

[Giovanna Tranfo](#), PhD, Senior Researcher, INAIL Research, Occupational Medicine Department, Monte Porzio Catone (RM) ITALY

INAIL Research carries out projects regarding the biological monitoring of exposure to chemical agents: main fields of interest are the study of new biomarkers, the determination of reference values in the general population, the assessment of biological limit values, and the validation of analytical techniques. Cooperating with the LILT (Italian League for Fight to Tumors) in the smoking cessation programs the urines of the participants were tested not only for the cotinine concentration but also for the benzene metabolites, and we found out that this increases the interest and the motivation of the participants to the smoking cessation programs.

A Cessation Incentive for those Most in Need: Tooth Whitening and the Community Dental Clinic

Dr. Doug Brothwell DMD BEd DDPH MSc CertQM Associate Dean (Academic) College of Dentistry, Faculty of Health Sciences University of Manitoba, Bannatyne Ave Winnipeg, Canada

This presentation will summarize the research findings and lessons learned in a RCT of smoking cessation operating from a community dental clinic setting. The RCT targets a socially-disadvantaged population that has not been effectively engaged by current smoking cessation efforts. In this presentation, the biochemically-verified cessation rates obtained by motivational interviewing (MI) alone will be compared with those obtained by MI plus a dental office tooth whitening incentive. In addition, the presentation will highlight the lessons learned when offering smoking cessation services in the community dental clinic setting.

Concierge Wellness Coaching and Tobacco Cessation

Ms Lisa R. Fuchs, MHA, RRT, CTTS, Nebraska Methodist College, Omaha, NE, USA

Wellness Coaching and Concierge Medicine are complementary in looking at the whole person on an individual basis. What are the values of the client? If they could paint a picture of their future, what would it look like? By examining the patient in relationship to exercise, proper nutrition and the addiction of tobacco, we can further evaluate how to proceed with wellness coaching. The lecture will further discuss how to motivate the client with unique needs and individual healthcare goals. Concierge Medicine can place the tobacco cessation counselor in the shoes of the client, and understand the client's lifestyle and daily patterns.

A Thoracic Surgeon's Approach to Decreasing Smoking in Adolescents

[Associate Professor Keith D. Mortman](#), M.D., F.A.C.S., F.C.C.P., Associate Professor of Surgery, The George Washington University School of Medicine & Health Sciences Director, Thoracic Surgery, The George Washington University Hospital, Washington, D.C., USA

Students Attending Thoracic Surgery (StATS) is a unique experience designed to give high school students insight into the effects of smoking on the lungs. Using an interactive, real-time audiovisual format, students observe a minimally invasive operation for lung cancer as it is performed. Didactic sessions with the students occur immediately prior to as well as following the surgery. Students are also introduced to the team approach of healthcare delivery as they witness a "real world" anatomy and physiology lesson.

Brief motivational enhancement for smokers: personalized health feedback

[Associate Professor Amy L. Copeland](#), PhD, MP, Department of Psychology, Louisiana State University, Baton Rouge, LA, USA

Daily smoking is associated with elevated blood pressure, carbon monoxide (CO) toxicity, and impaired pulmonary lung functioning. Provision of personalized information to smokers without engaging in confrontational pressure for cessation may lead to increased interest in cessation and willingness to enter smoking cessation programs. The goal of this ongoing study is to motivate smokers to enter a smoking cessation program, once they have received personally tailored health information related to smoking. Participants are randomly assigned to the active treatment condition (personalized information on blood

pressure, CO level, and pulmonary lung functioning), or the control group (health screening with no feedback).

Oral Presentation Abstracts

Oral presentations will be added after the submission deadline

CCTV FOOTAGE OF DESIGNATED SMOKING AREA IN A HOSPITAL – WHO IS USING IT?

K Doherty, E Heffernan, I Gilroy, A Clarke, E Campion, V Fadare, G Conlon, L Daly, P Fitzpatrick, CC Kelleher
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In 2009 St. Vincent's University Hospital, a busy tertiary referral hospital in Dublin, became the first hospital in Ireland to adopt a campus-wide smoking ban. Smoking is prohibited on campus except for a limited list of exemptions. Under certain conditions (e.g. terminal illness) patients are permitted to smoke in a designated smoking area on the hospital grounds. This study documents the use of this designated smoking area over a defined period of time in 2013.

Routine CCTV footage from outside the door of the smoking area was viewed over sixty hours in a randomly chosen week. Information recorded included: (a) day and time, and (b) category of person entering: patient (i.e. person in pyjamas and/or with a drip and/or a visible armband), non-patient alone (e.g. visitor) or staff member. If a patient, the following was also noted: (i) wheelchair user (ii) accompanied by a staff member, or (iii) accompanied by another person.

Within the 60 hours of observation, the smoking shelter was used on 189 occasions, with usage on weekdays (65%) higher than at the same time period at the weekend (35%). Repeated use by small number of people made up the majority of entries; eight patients made up 70% (n=80) of all 115 patient entries, 7 staff members entered 34 times and there were 40 non-patient entries.

Observation of the shelter revealed non-compliance by a small number of staff and non-exempt patients. Further emphasis has been placed on addressing patient non-compliance at ward level and swipe access to the smoking area has been reinstated. Continuous monitoring of a hospital campus-wide smoking ban is essential to maintain the policy.

SMOKING IN MENTAL HEALTH CARE FACILITIES IN THE NETHERLANDS

M. Blankers PhD, R. Buisman MSc, M. van Laar PhD

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Introduction - Although elevated smoking prevalence is a leading cause of the reduced life expectancy of people with mental illnesses, smoking cessation is low on the agenda of mental health care facilities in the Netherlands. In those facilities, tobacco smoking is allowed in smoking area's and smoking is sometimes even facilitated by staff. This presentation therefore addresses the following questions:

1. What is the content of the smoking policy in mental health care facilities in the Netherlands?
2. Which factors determine whether therapists support their clients to quit smoking or not, and if they do, what kind of cessation support do therapists offer them?

Method - Literature research, qualitative evaluation of smoking policies of the 64 mayor mental health care / addiction treatment facilities in the Netherlands, interviews with staff, and an internet-based survey among 600 employees of mental health care / addiction treatment facilities.

Results - 1. In general, smoking policies in the 64 facilities met the legal requirements. However, much variation in the policy and the strictness of enforcement was found among the facilities. For example, regarding underage smoking, smoking in clients' private rooms, provision of cessation support and attention to fire prevention varied among the different smoking policies.

2. The intention to help clients quit smoking was found to be determined by whether or not staff members have helped clients quit in the past, staff members' attitude towards their role in supporting client smoking cessation, their attitudes regarding health effects of client smoking, and to extent to which they feel supported to do so by the organisation they work for. Their own smoking status, gender, and the (perceived) strictness of the smoking policy within the facility they work for were however found to be of limited importance.

Discussion - Based on this study it is advised that:

- Universal smoking policy for mental health care facilities is needed in the Netherlands.
- Knowledge and skills of employees regarding smoking cessation should be enhanced.
- Clients should be better informed regarding their (elevated) smoking-related health risks.

- Awareness and availability of interventions should be raised and more data on effectiveness of these interventions is highly needed.

MATERNAL SMOKING AND PRIMARY TOOTH DENTITION

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Background. Epidemiological studies indicate that secondhand smoke induces the development of dental caries in children, with several potential pathways suggested (Hanioka et al. Int J Environ Res Pub Health 2011). We examined the relationship between maternal smoking and primary tooth dentition in 1.5-year-old children.

Methods. A questionnaire was included in an envelope mailed to 485 caregivers of 1.5-year-old children to notify them of a health check-up at 3 city health centers in Japan. The questionnaire was collected at the check-up, and dental records were linked to the questionnaire. Early eruption, which is defined as primary tooth dentition in which all deciduous canines erupt, was employed as a dependent variable for multivariate analysis. Maternal smoking status, sex, age, order of birth, birth weight, and levels of education and annual income of the household were entered as independent variables adjusting for location.

Results. Datasets of 430 children (88.7%) were collected at check-ups. After exclusion of 3 datasets due to lack of information on dentition, datasets of 427 children were available for analyses. Early eruption was reported in 257 children (60.2%). No information on maternal smoking status was available for 5 datasets. Number of mothers who smoked throughout pregnancy, number who quit during pregnancy, and number who had never smoked were 32 (7.5%), 37 (8.7%), and 353 (82.7%), respectively. Early eruption was found in 81.3%, 59.5%, and 58.1% respectively, by smoking group. Multivariate analysis for datasets of 389 children with complete dataset showed a significant and independent association of maternal smoking during pregnancy with early eruption of primary teeth.

Conclusion. Maternal smoking is associated with early eruption of primary teeth, which may in turn increase risk of early childhood caries.

This study was supported by the Education and Research Funds of Fukuoka Dental College and JSPS KAKENHI Grant Number 24593182.

USING A GENETIC TEST TO MOTIVATE SMOKERS TO QUIT

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This randomised controlled trial involving a gene-based estimate of lung cancer risk in smokers has been shown to act as a smoking cessation motivator in hospital recruited subjects. The objective of this trial was to determine if the gene based risk score is feasible and effective as a smoking cessation motivator in subjects recruited from English primary care. A lung cancer risk score is calculated from a 20 gene test and three clinical criteria (history of COPD, family history of lung cancer and age) and using this data, subjects are rated as risk categories "average", "high" or "very high". We recruited 67 smokers who were randomised to two clinics with 36 attending the test group clinic and 31 attending the control group clinic. The clinics were held at the same primary care venue but on different days of the week. Each group had 8 weeks of weekly smoking cessation sessions which were run by two trained smoking cessation practitioners and included monitoring of smoking status using the carbon monoxide breath test. There was also a follow-up session at 6 months. A buccal swab was taken from subjects who attended the test group clinic and this was dispatched to a laboratory for the 20 gene test and the principal investigator saw each test subject separately to explain the result and make sure that they understood what it meant in terms of their risk of lung cancer if they continued smoking.

The primary endpoint was smoking cessation at 6 months. Secondary outcomes included ranking of the gene-based test with other smoking cessation motivators based on a feedback questionnaire administered at the 8 week clinic and again at the 6 month follow-up clinic. The quit rates at 6 months were 29.4% and 42.9% for test group and controls respectively which is not significant ($p=0.271$). However, comparing the 9 test subjects who had "very high" risk scores with the 48 controls group subjects at 6 months, a statistically significant higher proportion of these test subjects stopped smoking (88.9% versus 42.9%, $p=0.023$).

The two feedback questionnaires carried out at 8 weeks and 6 months demonstrated scores for the many motivating factors for subjects attempting to stop smoking. However, the score for the value of gene based

test for lung cancer risk as a motivator could only be derived from the test group as the control group had not been offered this test. The gene-based test was rated as a motivator equal to “pressure from the family”, “Carbon monoxide breath test” and “general support from smoking cessation clinic sessions” ($p>0.05$). Although the score for the test as a motivator rated numerically lower than the general support from the smoking cessation clinic sessions this was not statistically significant.

There was a generally positive response to an open ended question to test group subjects:

“How do you feel now about having a genetic test that estimated the probability that you will develop lung cancer at some future date if you continue smoking?”

And to control subjects:

“How would you feel now about having a test that estimates the probability that you will develop lung cancer at some future date if you continue smoking?”

At the 6 month follow-up 68% of controls and 72% of test group stated that a test for lung cancer risk would help them to cut down or quit smoking.

This first trial of a gene based test for lung cancer risk in a primary care setting showed that a very high risk score encourages smoking cessation but failed to demonstrate a motivational role for lower risk scores. This may be because the trial was underpowered and a larger multi-centre would help to clarify the test’s motivational value for all risk categories.

THE E-CIGARETTE - A NEW GATEWAY TO ADDICTION?

TN Clarke, J Lusher

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Background: E-cigarette use in adolescents has risen rapidly from <1% in 2011 (Cho, Shin and Moon, 2011) to 17.4% in 2014, 8.3% of which were never smokers (Kinnunen, Ollila, El-Amin, Pere, Lindfors and Rimpela, 2013). This has spurred concerns that the e-cigarette will appeal to those who have never smoked, including adolescents, and act as a gateway (Grana, 2013; Choi, Fabian, Mottey, Corbett and Forster, 2012), where adolescents become addicted to e-cigarettes and then switch to tobacco cigarettes (Bell and Keane, 2014; Grana, 2013). Despite this and recent reports showing 17.8% of e-cigarettes are owned by adolescents (Pentz, Shin, Rigg, Unger, Collison and Chou, 2015), there is a paucity of research that has explored this possible gateway effect (Camenga et al, 2014; Akre and Suris, 2015).

Design/Method: A survey design using a UK sample, the current study examined adolescents’ willingness to try an e-cigarette and associations with susceptibility to try both e-cigarettes and conventional cigarettes within the next year. Participants were 192 non-smoking adolescent sixth form pupils who completed a questionnaire during school time in November 2013. Data were analysed using hierarchical multiple regression.

Results: In non-smokers, willingness to try an e-cigarette was a significant predictor of both susceptibility to use an e-cigarette ($F(1,253) = 174.71, p < .05$) and to smoke a cigarette ($F(1,190) = 60.34, p < .05$) within the next year.

Conclusion: Willingness to try an e-cigarette was associated with susceptibility to use in the next year for both e-cigarettes and conventional cigarettes. This could be an early warning sign that the e-cigarette is acting as a gateway to smoking addiction amongst adolescents. It points toward the argument that adolescents who have never smoked may be more inclined to initially try an e-cigarette, with this then leading to smoking cigarettes (Bell and Keane, 2014; Grana, 2013). Future research must consider tracking trends in e-cigarette use over time and identify associated behaviours around the use of other more harmful nicotine products.

SMOKING AND LARYNGEAL LESIONS

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Abstract

The association between cigarette smoking and an increased risk of laryngeal carcinoma has been definitely demonstrated in numerous studies. The aim of the present study was to assess the prevalence of smoking habit in patients with different laryngeal pathologies. The prevalence of cigarette smoking was compared between patients with laryngeal tumors and those with nonmalignant laryngeal lesions.

Data on all patients with indications for direct microlaryngoscopy at ENT Department, Split University Hospital Center, during a five-year period were analyzed.

The study included 562 patients with various laryngeal pathologies, divided into three groups as follows: group 1, benign lesions; group 2, precancerous lesions; and group 3, tumors. The majority of patients (82.92%) had a long history of smoking. The proportion of smokers was lowest in benign lesion group (72.13%), higher in precancerous lesion group (81.48%) and highest in malign lesion group (97.14%). There was a statistically significant difference in the prevalence of cigarette smoking between patients with laryngeal tumors and those with benign or precancerous lesions ($\chi^2=68.5$; $P=0.00$). The mean number of cigarettes per day was 20.54 ± 14.80 , and was lowest in benign lesion group (15.67 ± 13.41) and highest in malign lesion group (26.33 ± 12.70). The mean length of smoking habit was 26.44 ± 16.92 years, ranging from 19.57 ± 16.03 years in benign lesion group to 35.20 ± 12.12 years in malign lesion group. Study results clearly pointed to the increased prevalence of laryngeal diseases in smokers, with a statistically significant difference between patients with benign laryngeal lesions and those with laryngeal tumors.

Poster Presentation Abstracts

Poster abstracts will be finalised weeks before the event

INTRODUCTION OF A HOSPITAL CAMPUS-WIDE SMOKING BAN: PERSISTENT SUPPORT FROM STAFF AND PATIENTS FOR CAMPUS-WIDE SMOKING BAN BUT LITTLE CHANGE IN SMOKING RATES

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Since 2009 St. Vincent's University Hospital (SVUH) has led Ireland in establishing a smoke-free campus norm in Irish hospitals, with all hospitals now introducing bans across the country. The hospital has a nicotine replacement therapy management policy and provides free nicotine products for staff and patients. As the first hospital to implement a campus-wide ban, we undertook a number of surveys pre- and post-ban implementation. This is the presentation of the 2010 and 2013 data from the surveys of inpatients and staff. It focuses on changes between 2010 and 2013 in acceptance of the smoking ban amongst participants, smoking rates and attitudes towards smoking.

A representative sample of staff was selected ($n= 300$), quota controlled for occupational category. A census survey of all inpatients in the hospital was conducted across a single day; 182 patients were fit for interview. Data was collected using an interviewer-administered questionnaire which determined smoking prevalence, validated by breath carbon monoxide (CO) testing (inpatients only), acceptability of the ban and the impact on smoking behaviour. This data was compared with the comparable survey data from 2010.

No significant change in smoking prevalence between surveys was observed (inpatients 21.4% vs. 18%), (staff 14% vs. 11%). Agreement with the ban remains high (patients 87.9% vs. 84.2%), (staff 79% vs. 83%). Ban acceptability was highest amongst doctors (95%) and lowest in allied service staff (60%). Patient compliance remained the same (49%). Sixty-five percent of patients ($n=20$) who continued to smoke agreed with the ban. Staff perceptions of ban compliance by patients and staff reduced significantly between surveys ($p<0.01$).

While there is general acceptance of the ban, it requires ongoing encouragement and monitoring. There remains a small number of patients who find it difficult and resist NRT management and support. Staff perceptions of policy compliance may have reflected temporary operational difficulties with the designated exemption smoking area. Identification of smokers and systematic provision of smoking cessation support requires an ongoing consolidated approach from all staff members to support patients within a smoke-free hospital.

NICOTINE DEPENDENCE AND URINARY NICOTINE, COTININE AND HYDROXYCOTININE LEVELS IN DAILY SMOKERS

L. Van Overmeire, T. De Smedt, P. Dendale, K. Nackaerts, H. Vanacker, J. Vanoeteren, P. Roosebrouck, F. Achten, J. Van Looc, K. De Cremer
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Background: Knowledge about nicotine dependence among smokers is important because it can direct the treatment for smoking cessation. A simple measurement of nicotine dependence is possible by means of the Fagerström Test for Nicotine Dependence (FTND) consisting of 6 questions. Measurements of biomarkers in human samples provide an accurate and objective measure of nicotine exposure. The

nicotine metabolite cotinine is a good marker for exposure to tobacco and it can be measured in plasma, urine and saliva.

Objectives: The objectives of this study are: (1) to investigate the relationship between urinary levels of nicotine (NIC), its metabolites cotinine (COT) and hydroxycotinine (HCOT) and the calculated scores for the FTND among daily smokers; (2) to develop a model that explains the cigarettes per day (CPD) by including the levels of the biomarkers, the FTND score (without question 4 (giving info about CPD)) and age, gender and body mass index (BMI).

Materials and methods: Active smokers (n=219) among employees of two Belgian hospitals agreed to participate in this study. They completed a questionnaire and provided a urine sample. Urinary levels of NIC, COT and HCOT were determined by online solid phase extraction (SPE) combined with ultra performance liquid chromatography (UPLC) coupled to tandem mass spectrometry (MS/MS). The relationship between NIC, COT & HCOT and separate FTND scores for the 6 questions was assessed with a multiple linear regression model. A second multiple linear regression model was developed with CPD as dependent variable and with independent variables age, gender, BMI, HCOT concentration and the score of the separate FTND questions (without question 4). Model fit for both models was assessed through adjusted R².

Results: Participants (26.5% males and 73.5% females) were daily smokers, with a mean age of 41 years (range 18-64), smoking on average 11 CPD with a standard deviation of 6 CPD and had a mean FTND score of 3.2 with a standard deviation of 2.3. In exploratory analysis, we found significant correlations between the different biomarker concentrations, CPD and the FTND score. FTND questions 1 (scoring the time before the first cigarette after waking) and 4 proved to be significant in explaining the COT, HCOT and NIC concentrations. We were able to explain more than 51% of the variance of CPD where gender, smoking duration in years, HCOT concentration and FTND questions 1, 2 and 6 are significant variables.

Conclusion: There is a clear relationship between NIC, HCOT and FTND score and CPD. Especially FTND question 1 and 4 are relevant. We successfully developed a novel model to explain CPD with a regression model. This may be useful for future clinical research, focused on personalizing smoking cessation therapy.

CLINICAL TRIAL TO ASSESS PRODUCT USE, BIOMARKERS OF EXPOSURE AND EFFECT BASED ON DIFFERING INSTRUCTIONS FOR SNUS

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Under the U.S. Family Smoking Prevention and Tobacco Control Act (FSPTCA), the Food and Drug Agency (FDA) will evaluate the evidence to support health claims for modified risk tobacco products (MRTPs), that is, "any tobacco product that is sold or distributed for use to reduce harm or the risk of tobacco-related disease associated with commercially marketed tobacco products." For any decisions or actions in these areas, the FDA will need scientific data to develop regulations that result in improved public health. The conduct of regulatory science presents a challenge because there are many gaps in our knowledge about the best methods for conducting human studies to determine how the products will be used and the resulting toxicant exposure and to evaluate the validity of health claims. The fundamental methodological issues that need to be addressed include methods for recruiting a sample representative tobacco users who are interested in using the tobacco product; the effects of the subject's perception of the product on uptake and use; effects of instruction of use (partial or complete substitution) on pattern and amount of product use and on toxicant exposure; the change in responses to the product over time; and the identification of valid biomarkers of exposure and effect. Typically, these areas are investigated independently, yet it is the integration of findings that is necessary to accurately assess the impact of a tobacco product. This NIH-funded project [U19CA157345] (n =550, 8-week, randomized 5-arm trial) seeks to: (1) Compare product use and biomarkers of exposure and effect based on differing instructions for snus (partial vs. complete substitution); (2) Determine stabilization of product use by examining time effects for subjective, biomarkers and behavioral responses; and, (3) Determine moderators of use of a product and exposure. Data from this study will provide guidance on methods and measures that should be used in clinical trial assessments of tobacco products and novelly consider the interactions and effects of instructions of product use, perception and response to the product, and individual differences on product uptake and use and toxicant exposure. A pilot study sampling Camel Snus was conducted to determine the impact of instructions on use.

Pilot: Approximately 69% (n=120/175) completed a one-week sampling phase. During the sampling phase, daily snus use (mean=3.24, SD=2.25, median=3.0, range=0 to 13.33) and cigarette use (mean=13.78, SD=7.27, median=11.83, range=2.0 to 37.67) were reported using interactive voice response (IVR). Approximately 55% (n=66/120) used at least seven snus pouches during the sampling phase (the required

number for randomization to clinical trial), and then were enrolled in the clinical trial phase. Participants were randomized to one of five conditions: Complete substitution ad libitum, Complete substitution with instructions for amount of use, Partial substitution ad libitum, Partial substitution with instructions for amount of use, or Usual brand. Approximately 62% (n=41/66) completed at least four weeks and average daily snus use for complete substitution arms was 6.43 and 7.73 for ad libitum and instructions, respectively. Preliminary results indicate instructions may impact the number of snus pouches used.

TOBACCO SMOKING AMONG SERIOUSLY ILL PSYCHIATRIC BAHRAINI PATIENTS

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Smoking has been associated with several types of mental illness namely schizophrenia, depression, and bipolar disorders. However, most of the research that explored the association between tobacco smoking and mental illness was based on cigarette smoking. The objectives of the study were to determine the prevalence of smoking among Bahraini patients with serious mental illness (PSMI) and ascertain if their smoking behavior was different from that of the general population. A cross sectional study was conducted on adult Bahraini inpatients and outpatients in the Psychiatric Hospital diagnosed with major depressive disorder (MDD), schizophrenia and bipolar affective disorder (BAD) from 1 November 2014 to 31 January 2015. Age, sex and psychiatric history were obtained from the patients' medical records while tobacco smoking and other demographic variables by interviewing patients. The prevalence of smoking among PSMI was twice that of the general population. One third in both sexes combined and half of the males were smokers. MDD had the lowest prevalence of smoking but the highest in waterpipe tobacco smoking in both sexes combined. The mean age started cigarette smoking was lower among PSMI than the population while the average number of cigarettes smoked daily was higher. It can be concluded that PSMI are more addictive to tobacco smoking and have a higher risk of smoking related conditions than the general population. Thus, the Psychiatric Hospital should adopt a wider strategy in their management to include smoking cessation and healthy lifestyle.

COTININE VALIDATION OF SELF-REPORTED SMOKING DURING PREGNANCY IN THE SWEDISH MEDICAL BIRTH REGISTER

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Abstract

BACKGROUND: Many epidemiological studies use self-reported data on smoking behavior during pregnancy from the Medical Birth Register of Sweden (MBR). However, underreporting of such behavior may occur, leading to biases. It is thus of importance for future research to validate the smoking data in the MBR.

AIMS: The main objective was to investigate the agreement between self-reported smoking data from the MBR and cotinine levels in maternal serum among women from the general population in the region of Skåne, Sweden. We also estimated the transfer of cotinine between mother and fetus.

METHODS: From a cohort used previously to investigate the relationship between intrauterine environmental exposures and offspring neuropsychiatric outcomes, there were 204 control children retrieved from the MBR with data on maternal smoking in early pregnancy registered. Data on maternal and umbilical cord cotinine at delivery were available for these children from a regional biobank.

RESULTS: There was a high agreement between cotinine levels and MBR smoking data ($\kappa = 0.82$) and a high correlation between cotinine levels in maternal and umbilical cord serum ($r_s = 0.90$, $p < 0.001$).

CONCLUSION: In these data from the MBR we found that the agreement between mothers' self-reported smoking habits during pregnancy and their levels of serum cotinine was high, as was the transfer of cotinine from mother to fetus. This indicates that birth register data on pregnancy smoking in Sweden could be considered a valid measure.

DEVELOPMENT AND APPLICATION OF CULTURALLY-APPROPRIATE DECISION AIDS FOR SMOKING CESSATION IN KOREA: A PRAGMATIC CLUSTERED RANDOMIZATION CROSS-OVER TRIAL

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Abstract

Background: For smoking cessation, pharmacologic intervention is the most effective therapy and recommended by guidelines. However, in Asian countries, especially in Korea, smokers who have been prescribed smoking cessation medication are much fewer than in Western countries, possibly attributed to cultural differences in treatment-seeking behavior. Culturally appropriate decision aids are expected to help people in decision making by providing information and options about smoking cessation.

Methods: This study was designed as a clustered randomized trial. At a primary care clinic in a university hospital in Seoul, physicians were randomized to either control or intervention groups. Current smokers were enrolled as subjects. The intervention involved presentation of a 7-minute decision aid video containing information and options about smoking cessation. Primary outcome was the proportion of subjects who were prescribed smoking cessation medication within 1 month. Secondary outcomes included abstinence rate after 6 months.

Results: A total of 291 subjects were followed up for 6 months. The video aids did not significantly affect prescription of smoking cessation medication within 1 month (adjusted Odds Ratio [aOR] 1.21, 95% Confidence Interval [C.I.] 0.58-2.50), as well as after 6 months (aOR 0.83, 95% C.I. 0.42-1.62). However, more subjects in the intervention group reduced smoking amount (aOR 2.34, 95% C.I. 1.43-3.80) and tended to succeed in smoking cessation (aOR 1.23, 95% C.I. 0.60-2.54).

Conclusions: Culturally appropriate decision aids did not significantly affect prescription of smoking cessation medication. Further development for more personalized approach is warranted.

SMOKING BEHAVIOR, SMOKING EXPECTANCIES AND SYMPTOMS OF ADHD IN ADULTS

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Attention deficit and hyperactivity disorder (ADHD) is a common neurodevelopmental disorder, characterized by a persistent pattern of inattentive, hyperactive and impulsive behavior. Population surveys suggest that ADHD sustains in about 2.5% of the general population (Simon et al. 2009).

ADHD is an established risk factor for nicotine smoking. Smoking expectancies, the beliefs about possible negative and positive consequences associated with cigarette use, have well-documented contribution to substance use, but received only minimal research attention in the ADHD literature. Foster et al. (2012) suggested that adolescent ADHD symptoms predicted smoking expectancies: Inattention symptoms were negatively correlated with beliefs regarding costs of cigarette use, whereas hyperactivity and impulsivity symptoms were positively related to beliefs regarding the benefits of smoking. The purpose of the current study was to examine the relationship between ADHD symptoms, cigarette use and smoking expectancies in the adult population.

One hundred and forty participants (age range 18-52 years) completed an adaptation of the Smoking Expectancy Scale (Hine et al., 2007) for adults, and the Adult ADHD Self Report Scale (Kessler et al., 2005), and answered standardized questions about their smoking behavior.

We found that smoking behavior was positively correlated with self-reported ADHD symptoms, as well as with lower negative expectancies and higher positive expectancies of cigarette use. ADHD symptoms were positively correlated with expectancies regarding benefits of smoking. In particular, higher self-report of ADHD symptoms was associated with higher expectancies of boredom reduction.

We conclude that ADHD symptoms in adults are associated with more smoking, as well as with greater endorsement of positive consequences of cigarette use.

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