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Introduction Previous studies have shown higher breast cancer incidence and mortality among Japanese Brazilians than Japanese. To clarify the difference in hormone levels among populations, we compared postmenopausal endogenous sex hormone levels among Japanese living in Japan, Japanese Brazilians living in São Paulo, and non-Japanese Brazilians living in São Paulo.

Methods A cross-sectional study was conducted using a control group of case-control studies in Nagano, Japan and São Paulo, Brazil. Subjects were postmenopausal women aged over 55 years old who provided blood samples. We measured oestradiol, oestrone, androstenedione, dehydroepiandrosterone sulphate (DHEAS), testosterone and free testosterone by radioimmunoassay, bioavailable oestradiol by the ammonium sulphate precipitation method, and sex-hormone binding globulin (SHBG) by immunoradiometric assay. A total of 363 women were included for the present analyses: 185 Japanese, 44 Japanese Brazilians and 134 non-Japanese Brazilians.

Results Japanese Brazilians had significantly higher levels of oestradiol, bioavailable oestradiol, oestrone, testosterone, and free testosterone, and lower SHBG levels than Japanese. Japanese Brazilians also had significantly higher levels of bioavailable oestradiol, oestrone, and DHEAS, and lower levels of SHBG and androstenedione than non-Japanese Brazilians. Levels of oestradiol, testosterone, and free testosterone, however, did not differ between Japanese Brazilians and non-Japanese Brazilians. These differences were observed even after adjustment for known breast cancer risk factors.

Conclusions We found higher levels of oestrogens and androgens in Japanese Brazilians than in Japanese, and similar to or higher levels than in non-Japanese Brazilians. Our findings may help explain the increase in incidence and mortality of breast cancer among Japanese Brazilians.

P1-447 **HOW LONG DO PATIENTS IN THE UK GET TREATED FOR NON-SPECIFIC RESPIRATORY SYMPTOMS BY GENERAL PRACTITIONERS BEFORE THEY ARE DIAGNOSED WITH LUNG CANCER?**

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Introduction Most people with lung cancer in the UK are diagnosed late when curative treatment is no longer an option. This research aimed to determine the pattern of symptom reporting to GPs before lung cancer diagnosis to establish whether there is potential for developing a scoring system to allow cases to be diagnosed earlier.

Methods We used data from The Health Improvement Network (THIN)—A computerised longitudinal primary care database. We identified 12 121 incident cases of lung cancer diagnosed between 2000 and 2009 and matched each case with up to four controls by age, sex and general practice (n=48 216). Conditional logistic regression was carried out to estimate the ORs for symptoms 2 years before and 1 year before lung cancer diagnosis in cases compared to controls.

Results A sharp increase in the consultation frequency among lung cancer cases was found for cough, haemoptysis, chest/shoulder pain, voice hoarseness, dyspnoea, weight loss, lower respiratory tract infections, non-specific chest infections and chronic obstructive airway disease, about 9 months before they were diagnosed with lung cancer. The highest OR in cases compared to controls at 1 year was noted for haemoptysis (OR 54.7, 95% CI 42.5 to 70.4) and the lowest was for upper respiratory tract infections (OR 1.72, 95% CI 1.55 to 1.92).

Conclusions Patients with lung cancer have an increase in reporting of symptoms to the GP which occurs about 9 months before they are diagnosed. Future work will aim to develop these results into a predictive score to allow earlier diagnosis of lung cancer.

P1-448 **USING A SOCIAL MARKETING TOOL TO IDENTIFY SECTORS OF THE UK WHERE LUNG CANCER INCIDENCE IS HIGHEST**

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Introduction To target lung cancer awareness campaigns and increase earlier ascertainment of disease, there is a need to identify the sectors of society most at risk of developing lung cancer. Using Experian's Mosaic social marketing tool (a consumer classification of all UK households and postcodes into 61 groups and 11 types), we aimed to identify the UK populations with the highest incidence of lung cancer.

Methods All incident cases of lung cancer from 2000 to 2009 in a UK computerised primary care database were identified. Lung cancer incidence rates were stratified by 3-yearly calendar periods, age, sex, socioeconomic status, UK health authority and Mosaic groups and types.

Results A total of 12 135 incident cases of lung cancer were identified. Overall incidence of lung cancer was 41.4 per 100 000 person-years and this increased with increasing deprivation. The highest incidence of lung cancer was in the North-West of England and the lowest rate was in London. The Mosaic types with the highest incidence of lung cancer were F39 (dignified dependency), I48 (old people in flats) and I50 (cared-for pensioners).

Conclusions Using Experian Mosaic's social marketing tool, we have identified wide variations in the incidence of lung cancer, larger than variations by socioeconomic status alone. We have also been able to determine the sectors of UK society and therefore postcodes and neighbourhoods with the highest incidence rates of lung cancer. Application of this knowledge will enable accurate targeting of media campaigns on lung cancer and also aid earlier ascertainment of lung cancer cases.

P1-449 **EFFECT OF STONE DUST ON LUNG AND LUNG FUNCTION TESTS OF STONE QUARRY WORKERS IN SRI LANKA**

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Introduction Stone quarry workers are constantly exposed to crystalline silica dust of different particle sizes in different concentrations.

General objective To determine the effects of stone dust on respiratory health of stone quarry workers in Sri Lanka.

Methodology Respiratory symptoms of quarry workers(n=79) from different sections of industry were assessed followed by a clinical examination. Spirometric indices were recorded prior to a Monday work shift and air borne dust levels were measured.

Results Workers had a mean work duration of 53 months and an average of 4.2 pack years of smoking. Regarding the respiratory symptoms, 10.1% and 11.4% workers complained of morning and nocturnal cough, respectively. While 2.5% workers had Haemoptysis and 30.4 % workers complained of wheezing, 30.4 % and 5.1 % had Grade II and III dyspnoea respectively. One subject showed evidence of fibrosis on clinical examination. Lung function tests showed a restrictive pattern in 24 (30.4%) workers and among them 16 had above normal exposure to dust. Obstructive pattern is seen in 9

(11.4%) subjects with 4 being exposed to higher dust levels. There is a statistically significant relationship with duration of work, type of work and the level of dust exposure with the clinical features (p<0.001).

Conclusion There is a decline in the lung function which is related to the duration of work and amount of dust exposure. It mainly shows a restrictive pattern of impairment.

P1-450 IMPROVEMENTS IN SOCIAL COHESION: DO THEY MATTER FOR PHYSICAL ACTIVITY

doi:10.1136/jech.2011.142976g.40

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Introduction Much research exists on the relationship between environmental factors and physical activity (PA). However, few studies have investigated the role of social cohesion in neighbourhoods. The aim of this study was to assess the extent to which social cohesion and changes over time in the levels of social cohesion were associated with PA.

Methods We used data from the survey WoonOnderzoek Nederland 2006 and 2009, using two samples of 57 092 Dutch adults. Using multi-level Hurdle Negative Binomial models, we assessed if the odds for being physically inactive and the mean hours of PA among people who are physically active were related to levels of social cohesion at neighbourhood level, and changes in social cohesion between 2006 and 2009. Next, we examined if these associations varied according to sex, age, and economic activity.

Results In areas with higher levels of social cohesion compared to areas with less social cohesion, more people were physically active. In addition, generally social cohesion was not associated with the amount of PA. Improvements in social cohesion between 2006 and 2009 were not associated with the odds of being inactive in the general population and with the amount of PA among the people being physically active.

Conclusion Social cohesion is related to physical (in) activity. However, improvements in social cohesion were not strongly related to physical (in) activity. This raises question on the causality of the relationships that are observed in cross-sectional analyses. Enhancing social cohesion in neighbourhoods may have limited influence on population levels of physical activity.

P1-451 INFANT MORTALITY IN SWITZERLAND

doi:10.1136/jech.2011.142976g.41

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Infant mortality rates in Switzerland had been among the lowest in Europe. This is not longer the case. Swiss rates are now in the medium range. This paper examines reasons why. Data from 1900 to 2009 is based on the birth database hold at the Swiss Federal Statistical Office (FSO). Variables on weight, length, number of siblings, ages of mother and father are taken into account, as well as causes of death. Gestational age was only recently introduced into the data registration. In 1900 the infant mortality rate in Switzerland was 150 per 1000 life births, in 1990 6.8 and in 2009 4.3 per 1000. In the last 20 years, the infant mortality rate dropped by about a third. A strong decline is primarily observed among children aged 28 days up to 1 year. In children aged 1 to 27 days, the mortality rate has halved over the same period. A growing mortality rate, however, is seen in infants in the first 24 h after birth. Mostly affected are extremely premature births, which are due to their immaturity at high risk. During the same time, numbers of twins, numbers of low birth weight infants and age of mothers had increased considerably. The slowing, if not stagnant decline in infant mortality in Switzerland in recent years is explained by an increase in high risk deliveries. Infants in Switzerland die, if anything, more and more in the first days of life, even in the first hours after birth.

P1-452 BREASTFEEDING PRACTICES IN INDIA: A SURVIVAL ANALYSIS

doi:10.1136/jech.2011.142976g.42

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Introduction The single most cost effective intervention to reduce infant mortality in developing countries would be by promoting exclusive breastfeeding. Breastfeeding should be initiated immediately after child birth and should be continued exclusively up to a maximum of 6 months. In India where a majority of the population has a low income and poor education, the need for breastfeeding represents the effective way of giving child a fair chance of survival and good health. The objective of the present study was to describe the association between exclusive breastfeeding and socio-economic demographic & cultural variables.

Methods The data for the study was taken from nationwide District Level Health Survey- 3 (DLHS-3) conducted in 2007—2008. The statistical tests used were Kaplan-Meier survival curves & Cox proportional hazard model.

Results The mean duration of exclusive breastfeeding in India was found 3.31 months (95% CI 3.08 to 3.15) while it was found almost 4.15 months (4.03 to 4.28) in low infant mortality states in southern India compared to 1.5 months (1.45 to 1.54) in high infant mortality states in northern India. The analysis showed that no maternal education (p<0.001), being an unemployed mother (p<0.001), and Muslims (p<0.001) were important associations of early cessation of exclusive breastfeeding.

Conclusion The study showed that survival status of the child had a significant impact on the duration of exclusive breastfeeding. Also it was found that the time of initiation of breastfeeding after birth was an important determinant for total duration of exclusive breastfeeding.

P1-453 TRENDS OF VASCULAR SURGERY IN SCOTLAND 1991—2007

doi:10.1136/jech.2011.142976g.43

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Objective To understand trends of vascular interventions and changes in provision of vascular surgery.

Design A retrospective, descriptive, population-based study using hospital discharge data.

Setting Scotland 1991—2007.

Chief outcome measures Time trends in patient demographics and age and sex-specific population rates of these procedures.

Results In Scotland, between 1991 and 2007, a total of 153 117 vascular procedures of interest were performed. The proportion of men who underwent these procedures was higher than the proportion of women. The mean age of individuals who underwent amputation and lumbar sympathectomy decreased significantly over the period under review (p<0.001). In contrast, the mean age of individuals who underwent diagnostic endovascular procedures and therapeutic endovascular procedures increased significantly (p<0.001). However, the mean age of individuals who underwent