

**P2-226 FISH, VEGETABLE, AND FRUIT INTAKES AND MORTALITY FROM PULMONARY EMBOLISM AMONG JAPANESE MEN AND WOMEN: THE JACC (JAPAN COLLABORATIVE COHORT STUDY FOR EVALUATION OF CANCER RISK) STUDY**

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**Introduction** Numerous studies have reported associations of cardiovascular risk factors with pulmonary embolism (PE), but an association of dietary factors with the risk of PE is not fully established.

**Methods** Using a prospective design, we studied the 14.7-year risk of PE death in relation to dietary factors, such as fish, vegetable, and fruit intakes, in 91 280 men and women aged 40–79 years in Japan. The HRs of PE death and 95% CIs were calculated by using the Cox proportional hazards model.

**Results** We documented 56 deaths due to PE during 14.7 years. Mean values of age were significantly higher among participants with PE than those without PE, but there were no significant differences in body mass index (BMI), hypertension, or diabetes mellitus between participants with PE and those without PE. The age- and sex-adjusted HRs of PE were lower across frequency of fish intake. Compared with the participants in the lowest fish intake group (<1 time/month), the HRs (CIs) of PE for those in the other groups were 0.31 (0.09 to 1.07) for 1–2 times/month, 0.22 (0.08 to 0.60) for 1–2 times/week, 0.19 (0.07 to 0.51) for 3–4 times/week, and 0.18 (0.07 to 0.52) for every day (p for trend <0.001). The HRs were unchanged by additional adjustment for other PE risk factors. There were no significant associations of vegetable and fruit intakes with the risk of PE death.

**Conclusion** A greater fish intake is associated with a lower risk of PE death among Japanese men and women.

**P2-227 IS COPD A BLESSING IN DISGUISE FOR LUNG CANCER PATIENTS?**

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**Introduction** Although lung cancer is the most common cancer in the world with an estimated 1.61 million new cases diagnosed in 2008 (Cancer Research UK, 2010) little is known about the effect long term lung disease has on the survival rate of lung cancer.

**Methods** The aim of the study is to compare the 3-year survival rates of lung cancer patient with pre-existing COPD with the 3-year survival rates of patients with lung cancer only. Data from Hospital Episodes Statistics was identified for lung cancer patients as well as for COPD patients.

**Results** Three year data obtained from Liverpool PCT showed 434 new cases of lung cancer and 48 (11%) of these new cases are known COPD patients. Inference from the analysed data proved to be contrary to previous knowledge that co-morbidities reduced survival rates of lung cancer patients. Lung cancer patients with COPD showed better survival than lung cancer patients without. This difference is more evident after controlling for age. Lung cancer patients (aged 65 or less) with COPD were seen to have survived more ( $\text{Pr} > \chi^2 = 0.0223$ ) than their non-COPD counterparts of the same age category.

**Conclusion** This study was able to show a difference in the survival rate of the two lung cancer groups researched (those with or without COPD) with patients with COPD surviving more than those without. This difference becomes more significant in patients less than 65 years.

**P2-228 DEPRIVATION AND OBESITY-RELATED CHRONIC DISEASES: A PROBIT REGRESSION ANALYSIS USING LINKED HOSPITALISATION DATA**

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**Introduction** Chronic diseases associated with obesity reduce quality of life, are a major cause of death, and have a direct impact on the demand for hospital care and the attendant costs. Lifestyles such as diet and physical activity feature prominently among the factors influencing these diseases. However, environmental factors such as deprivation may limit the range of options for healthier lifestyles. We examine factors influencing the risk of obesity-related diseases, and how these differ by degree of deprivation.

**Methods** We carry out a probit regression analysis of linked hospitalisation episode data from the Scottish Morbidity Records that have been administratively linked to respondents to the Scottish Health Surveys. The outcome measures are obesity-related cancers, heart diseases, stroke, type 2 diabetes, and peripheral vascular diseases identified by International Classification of Diseases (ICD9 and ICD10) codes.

**Results** Compared with the respective reference groups, men, older age, current smoker, being overweight or obese, and the poorer in general health are associated with a greater risk of an obesity-related disease. On the other hand, being married, education, spending more time doing a sporting activity, and better dietary behaviour are associated with a lower risk of an obesity-related disease. However, increasing time spent doing sporting activity reduces the risk of an obesity-related disease in the most deprived group, while a better dietary behaviour achieves this in the least deprived group.

**Conclusion** Interventions targeting lifestyles to reduce obesity-related morbidity in the population may have differential effects between the least and the most disadvantaged groups.

**P2-229 NON-ALCOHOLIC FATTY LIVER DISEASE: PREVALENCE AND TRANSITION PROBABILITY IN A RANDOM SAMPLE POPULATION-BASED STUDY IN SOUTHERN ITALY**

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**Introduction** Non-alcoholic fatty liver disease (NAFLD) is the most common liver disease worldwide.

**Objectives** To estimate NAFLD prevalence and transition probability through different severity stages in a population older than 18 years of age.

**Methods** The survey was conducted from July 2005 to January 2007 in Putignano, Bari. A systematic random sample of 2301 subjects from the list of records maintained by general practitioners was drawn. Subjects were asked to complete a questionnaire regarding sociodemographic characteristics and life styles, underwent anthropometric measures and liver echography. A sequential logit model was used to estimate the effect of the explanatory variables on the odds and probabilities of passing a set of transitions.

**Results** Overall prevalence of NAFLD was 24.3% (male 36.7%, female 14.2%); NAFLD steady raised with age. BMI and its interaction with age resulted significantly associated with the odds of transition from less to more severe NAFLD, especially in early stages. At 40 years old the transition probability to pass from no NAFLD to any form of NAFLD reached 35% and 8% among men and women respectively. The effect of BMI on the most severe stage

of NAFLD is almost entirely the result of transition between absence to light NAFLD for subjects in the range 18–30 years old. A small effect of BMI was also seen in post-menopause women.

**Conclusions** The implications of this alarming and silent prevalence of NAFLD derived from the fact that this liver condition may progress to more severe liver disease.

**P2-230 OVERWEIGHT AND OBESITY: PREVALENCE AND THEIR ASSOCIATION WITH SOME SOCIAL AND LIFE-STYLE CHARACTERISTICS IN A RANDOM SAMPLE POPULATION-BASED STUDY IN SOUTHERN ITALY**

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**Introduction** Obesity has become a threat to public health, as the epidemic is not confined to developed countries but is affecting many developing ones.

**Objectives** To estimate overweight and obesity prevalence and their association with some social characteristics in a population older than 18 years of age.

**Methods** The survey was conducted from July 2005 to January 2007 in Putignano, Bari, Apulia. A systematic random sample of 2301 subjects from the list of records maintained by general practitioners was drawn. Subjects were asked to complete a questionnaire regarding sociodemographic characteristics and life styles, underweight anthropometric measures and liver echography. A fasting blood sample was drawn. A quantile regression model was fitted to the data (conditional quantiles: 0.47 overweight and 0.83 obesity) with 500 bootstrapped replications.

**Results** Overall prevalence of overweight was 50.1% (male 59.5%, females 14.6%) whereas obesity prevalence was 16.1% (male 18.0%, females 14.6%). Overweight and obesity steady raised with age. Overweight was associated positively with age at enrolment, being a male, number of household members, daily alcohol intake, married status and high socio-economic status. Obesity was associated positively with age at enrolment, being a male and daily alcohol intake.

**Conclusion** There is little doubt that socio-cultural and life-style factors operate to influence overweight and obesity but it is important to investigate the factors and their interaction on obesity as well as the pathway linking them. This approach may support the development and implementation of effective public health strategies.

**P2-231 STOMACH CANCER MORTALITY AMONG AGRICULTURAL WORKERS: RESULTS FROM A BRAZILIAN DEATH CERTIFICATE-BASED CASE-CONTROL STUDY**

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**Introduction** The use of pesticides in Brazil has been high. It is important to assess the risks related to the use of these substances. Some studies have reported an association between agricultural work and stomach cancer. This study aimed to estimate the risk of death from stomach cancer among agricultural workers in an intensive pesticide-use area in Brazil, 1996–2005.

**Methods** Cases were men and women aged  $\geq 20$  years old that died of stomach cancer. For each case two age and sex matched controls were randomly selected, from all possible controls where the cause of death was not cancer or haematological disease. Crude and adjusted ORs were estimated to evaluate the magnitude of the risk.

**Results** Agricultural workers living in the Serrana Region of Rio de Janeiro State were at higher risk of death from stomach cancer (OR: 1.41 (95% CI 1.10 to 1.82)) compared to non-agricultural workers. Stratified analysis revealed that the risk was higher among younger (OR: 3.34 (1.58 to 7.08)) agricultural workers.

**Conclusion** These results suggest that agricultural workers living in the Serrana Region of the state of Rio de Janeiro were at statistically significant higher risk of death from stomach cancer compared to non-agricultural workers.

**P2-232 CARDIOVASCULAR DISEASE CONDITIONS: PREVALENCE, AWARENESS, TREATMENT AND CONTROL AMONG THE URBAN POOR IN NAIROBI**

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**Introduction** The burden of Non-communicable diseases, including cardiovascular diseases (CVD), and their risk factors are rising in Sub Saharan Africa. In Kenya, prevalence of overweight and obesity among reproductive-age females almost doubled over a fifteen-year period (13%–23%) between 1993 and 2008. This may be attributable to rapid urbanisation and unhealthy lifestyles. Little is known about prevalence and awareness levels of CVD in Sub Saharan Africa. This study describes burden and treatment patterns of common CVD conditions (diabetes and hypertension) among adults in two urban slum settlements in Nairobi, Kenya.

**Methods** We conducted a cross-sectional survey on a stratified random sample of 5190 adults aged 18 years and older in an area under the Nairobi Urban Health Demographic Surveillance System. Data collected included self-reported diagnosis and treatment history of hypertension and diabetes, blood pressure and glucose measurements.

**Results** The prevalence of hypertension and diabetes was 12.3% and 4.3% respectively. Only one in five of those diagnosed with diabetes or hypertension was aware of their condition. Among those aware of having hypertension, less than one third were on treatment, and only 10% were controlled (blood pressure <140/90 mm Hg). Among those who were aware of being diabetic, just over half were on treatment and one-fifth had Random Blood Sugar <7.7 mmol/dl.

**Conclusion** The burden of common CVD among these poor communities is quite high. Worse, the level of awareness, treatment and control are dismally low. Interventions to increase awareness for example, through routine adult screening are needed to avert an impending CVD epidemic.

**P2-233 ASSOCIATION BETWEEN SLEEP DURATION AND BLOOD PRESSURE IN ADOLESCENTS**

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**Background** In adults, sleep has showed an important role on health namely in cardiovascular risk factors. The purpose of this cross-sectional study was to evaluate the association between sleep duration and blood pressure, at 13 years of age.