lower BMI (difference between children of smoking vs non smoking fathers, 0.8 kg/m², 95% CI 0.1 to 1.4) and children of mothers reporting vigorous physical activity had lower BMI, cholesterol, ApoB/ApoA1 levels and decreased odds for overweight/obesity. Independent and consistently statistically significant associations were found between parents' and children's CVD risk-factors.

Conclusion Parental behaviours like smoking, alcohol consumption, and low physical activity were significantly associated with higher levels of certain CVD risk-factors in children. Strong correlations in CVD risk-factors between family members that are not related to SEP or parental lifestyle suggest a role of genetics in influencing children's CVD risk-factors. Public health policies should target families with unhealthy lifestyles.

P2-139 PERIODONTAL INFLAMMATIONS ARE RELATED TO NITRIC OXIDE LEVELS IN SALIVA

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Introduction Nitric oxide (NO) plays an important role in almost every biological system. The increase in NO in periodontal tissues has been reported in inflammatory periodontal disease, which suggests the production and participation of NO in the disease process. However, the association between salivary NO levels and periodontitis was rarely reported. The aim of this study was to assess the periodontal health according to the salivary NO levels in Korean elderly.

Methods 203 subjects aged 48–84 years old were cross-sectionally surveyed. All participants underwent oral examination. Age, gender, education level, regular exercise, smoking were evaluated through interview. Periodontal health status was evaluated by clinical attachment loss over 6 mm (CAL6 mm) for 6 points of 12 index teeth (total 72 sites). The number of CAL6 mm sites was counted. Unstimulated saliva was collected for 10 min. Salivary NO was determined by the Griess reagent. ANCOVA and Multiple linear regression analyses were applied.

Results After correcting for differences in for age, gender, education, regular exercise, smoking, salivary flow rate, and number of natural teeth, high NO level group showed the highest number of CAL6 mm sites (15.2 vs 7.0 and 10.8, $p=0.031$). Salivary NO levels had a dose-effect relationship with the number of CAL6 mm sites ($\beta=0.026$, $p=0.011$).

Conclusion NO levels are elevated in individuals with periodontitis. These results reveal that periodontal disease and its severity are related to salivary NO concentration, indicating that NO may serve as a potential biological marker for detection and monitoring of periodontitis.

P2-140 DIETARY PATTERNS AND RISK OF METABOLIC SYNDROME AMONG KOREAN POPULATION: THE KOREAN NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY, 2007–2009

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An increasing number of studies in Western countries have examined the relationship between dietary pattern, namely the measurement of overall diet by considering the cumulative effects of nutrients, and the risk of metabolic syndrome (MetS). However, such information is absolutely lacking among Asian populations, including Korea, with different subject characteristics and culture-specific dietary habits. This cross-sectional study examined the association between dietary pattern identified by factor analysis and the risk of MetS among Korean population. We used data from the Korean National Health and Nutrition Examination Survey, 2007–2009. The analytical sample included men and women aged 30–80 years with 24 h recall, anthropometric and clinical measurements ($n=5320$). MetS was defined based on the Adult Treatment Panel III of the National Cholesterol Education Program criteria as having three or more risk factors using a modified obesity index. We identified three dietary patterns ("Meat & alcohol", "Unbalanced Korean", and "Diverse") in both sexes. After adjustment for potential confounding factors, subjects in the highest quintile of the "Diverse" dietary pattern had significantly lower risk of MetS compared with those in the lowest in both sexes (multivariate OR: 0.50; 95% CI 0.27 to 0.90; p for trend =0.174 for men; multivariate OR: 0.58; 95% CI 0.38 to 0.87; p for trend =0.005 for women). Other dietary patterns were not associated with the risk of MetS. The result suggests that a diet high in vegetables, fruits, eggs, fish, and meat might reduce the risk of MetS among Korean population.

P2-141 DEFINITION AND VALIDATION OF AN ALGORITHM TO IDENTIFY COPD PATIENTS FROM ADMINISTRATIVE DATABASES

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Introduction Administrative databases are increasingly used to identify patients with chronic conditions, however the optimal methodology for Chronic Obstructive Pulmonary Disease (COPD) is still debated.

Objective To develop and validate an algorithm to identify patients with COPD in Lazio (2 625 102 residents over 45) linking clinical and administrative data.

Methods From the regional hospitalisation, drug prescription and outpatient registries, through record linkage, we identified patterns of specific drug use (minimum 2 prescription during 12 months) and COPD hospitalisations during a 9-year period in 428 patients with COPD, who attended an outpatient clinic in 2006, and in 2140 people without COPD. Through a Bootstrap-Stepwise procedure we selected COPD associated factors. We validated the algorithm through internal (cross-validation-bootstrap, jack-knife) and external validation (comparison with external COPD patients with confirmed diagnosis).

Results A total of 205 611 (7.8%) COPD patients were identified. Factors associated with COPD were: prescription of β 2-agonists, anticholinergics, corticosteroids, oxygen, and previous hospitalisation for COPD and respiratory failure. For each patient we estimated an expected probability to suffer from COPD. Depending on the cut-point of expected probability, sensibility (SE) ranged from 0.15 to 0.87 and specificity (SP) from 0.79 to 0.99. We defined a cut-point of 0.30 (SE=64%; SP=97%) to identify the COPD patients. Applying our algorithm on external COPD patients we succeeded to identify 86%.

Conclusion The algorithm showed good performance to identify COPD patients among those individuals registered in the regional healthcare system confirming the strength of administrative data for monitoring chronic diseases.

P2-142 EFFECT OF CHRONIC THERAPY WITH STATINS BEFORE INFARCTION IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Introduction Efficacy of preventive therapy with statins in reducing mortality and cardiovascular morbidity in patients with and without cardiovascular disease has been shown in clinical settings, but effectiveness results were not reported.

Objectives To evaluate whether chronic statin therapy before infarction reduces mortality within 30 days after acute myocardial infarction (AMI) and investigate potential confounders/effect modifiers (gender, age and comorbidities).

Methods Hospital discharges of AMI patients (≥ 35 years) resident in the Lazio region in 2007–2008, were selected, excluding patients with AMI or revascularisation procedures (aortocoronary bypass, PTCA) in the preceding 9 years. Statin use (ATC: C10AA, C10B) during 1 year preceding the index admission was assessed through the drug claims information system; patients were defined “partially adherent” with 20%–80% days covered by statin doses and “adherent” with 80% and more coverage. Crude and adjusted 30-day mortality risks of statin users vs nonusers were estimated using logistic regression models. The role of gender and age as effect modifiers, interaction terms were included in the model.

Results Among 6790 AMI patients statin users showed reduced mortality risk compared to nonusers (OR=0.75, 95% CI 0.58 to 0.98 for partially adherent, OR=0.85 95% CI 0.66 to 1.09 for adherent). The protective effect was more evident in females (OR=0.74, 95% CI 0.52 to 1.05 for partially adherent, OR=0.67 95% CI 0.46 to 0.97 for adherent) and in older people (>85 years) (OR=0.84, 95% CI 0.50 to 1.40 for partially adherent, OR=0.51 95% CI 0.29 to 0.91 for adherent).

Conclusions Chronic statin therapy before infarction reduced 30 days mortality in patients with AMI, especially in females and elderly.

P2-143 TRENDS IN THE PREVALENCE OF DIABETES AND DIABETIC RETINOPATHY AMONG JAPANESE URBAN POPULATION

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Introduction The purpose of this study was to examine trends in the prevalence of diabetes (DM) and diabetic retinopathy (DR) between 2001 and 2009 years among Japanese population in Osaka, urban area in Japan.

Methods This study was a population-based study including 10 companies' employees and 1 community residents in Osaka, aged in 30–79 years, who underwent cardiovascular routine health examination at 2001–2003 (7186 participants), 2004–2006 (6908 participants) and 2007–2009 (7530 participants). We compared the prevalence of DM and DR among these three periods. DM was defined as HbA1c $\geq 6.5\%$ (Japan Diabetes Society's unit) or patients

taking medication, and pre-DM was defined as HbA1c $\geq 5.6\%$ and HbA1c $< 6.5\%$. Fundus photographs were graded using modified Scott classification of diabetic change. DR was defined as 1 degree or greater of Scott classification or as significant retinal haemorrhage excluding hypertensive retinal haemorrhage and retinal vein thrombosis.

Results Age-adjusted prevalence of DM was also significantly increased from 2001 to 2003 (2.6%) to 2007–2009 (3.9%) in men and women (p for trend < 0.01). The respective prevalence of pre-DM was also significantly increased from 3.9% to 8.7% (p for trend < 0.001). The age-adjusted prevalence of DR was 13%–15% in men and 11%–13% in women, both of which showed no significant change from 2001–2003 to 2007–2009.

Conclusion A significant increase in the prevalence of DM and pre-DM implies the importance of prevention and early detection for DM and DR in urban Japanese populations.

P2-144 AN EVALUATION OF DIETARY AND EXERCISE INTERVENTION FOR HYPERTENSIVE MEN

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Introduction This study evaluated the effect of a 6-month health intervention program conducted from 2003 to 2008 for hypertensive men in Japan.

Methods The subjects, volunteers aged 50–75 years, were divided into 45 and 25 men for the intervention and control groups, respectively. We performed dietary and exercise education five times for the intervention group and conducted two health checkups for both groups. We compared lifestyle, and physical and mental health criteria at baseline, and immediately after the intervention.

Results During the 6-month intervention, the follow-up rates were 97.8% and 76.0% in the intervention and control groups, respectively. At the baseline, there were no differences in physical status or lifestyles between the intervention and control groups. After the program, no significant change was shown in the urinary excretion ratio of Na/K in the control group (3.5–3.2, p=0.768), but a significant decrease was demonstrated in the intervention group (2.6–2.2, p=0.023). The exercise habit, a walk of more than 30 min everyday, increased significantly in the intervention group. No significant change in the mean systolic or diastolic blood pressure (mm Hg) was shown in the control group (149.3–147.0, p=0.199, 89.2–87.5, p=0.171), but the intervention group showed a significant decrease (151.0–146.0, p=0.034, 93.5–88.6, p < 0.001).

Conclusion In the intervention group, dietary and exercise habits were improved by health education, and the Na/K ratio and blood pressure significantly decreased for the next 1-year period.

P2-145 BMI AND THE RISK OF HOSPITALISATION

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Introduction Obesity and overweight have a range of health effects, yet little evidence is available on their effect on hospitalisation.