

P2-90 HIGH LEVELS OF PLASMA HOMOCYSTEINE PREDICTS DEVELOPMENT OF HYPERTENSION IN A GENERAL POPULATION. THE TANUSHIMARU STUDY

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Introduction Homocysteine has been implicated in promoting atherosclerotic vascular disease. We have already demonstrated that high level of plasma homocysteine is an independent correlates for increased carotid artery wall thickness in cross-sectional study in a same cohort. The present study was designed to determine whether high plasma homocysteine levels predict the development of hypertension after ten years.

Methods A periodic epidemiological survey was performed in 1999 in Tanushimaru town. Data on fasting homocysteine were obtained from 1111 individuals (452 males, 659 females) in 1999. 512 subjects who were BP \geq 140/90 mm Hg or taking hypertensive medication were excluded from the study. We enrolled 599 individuals at baseline. Ten years later, we conducted follow-up health examination in the same cohort. Of the 599 subjects, 50 had died, 49 had refused the examination. Consequently, 500 subjects (326 males, 174 females) were re-examined.

Results Of 500 normotensives (BP<140/90 mm Hg without anti-hypertensive medications) at baseline, 230 subjects (46%) developed hypertension. We divided the baseline plasma homocysteine levels into tertiles. The OR for the development of hypertension after ten years was 1.66 (95% CI 1.02 to 2.73) in the highest tertile vs the lowest tertile of homocysteine level after adjustment for confounding factors.

Conclusion High levels of homocysteine predicted the development of hypertension in normotensive subjects. We may propose measurement of plasma homocysteine as a predictive marker for hypertension in clinical practice.

P2-91 CALCIUM, PHOSPHORUS, AND CARBOHYDRATES AND THE RISK OF COLORECTAL CANCER IN POLAND

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Introduction An increasing trends of colorectal (CRC) morbidity and mortality across developed countries is observed. Epidemiological studies showed that majority of those cases are due to improper diet. The results on colorectal risk modification by dietary factors in central Europe are scarce. The objective of the present study was to evaluate the role of calcium, phosphorus and polysaccharides intake on colorectal cancer risk in Poland.

Methods The hospital-based case-control study was carried out in Poland in 2000–2010. In total, 637 histologically confirmed cancer cases and 874 controls were recruited. Information about frequency and quantity of consumption of 148 alimentary items and numerous confounders was gathered by questionnaire.

Results After adjustment, increase consumption of calcium was associated with decreased risk of colorectal cancer (OR=0.59, 95% CI 0.41 to 0.86). Similar change in risk was observed with increased consumption of phosphorus (OR=0.58, 95% CI 0.44 to 0.75). On

the other hand, an increasing risk of CRC with increasing consumption of polysaccharides was observed (in quartiles: ORs: 1.20, 1.39, 1.56, respectively).

Conclusions The results of the present study support the protective role of high intake of calcium and phosphorus in the aetiology of colorectal cancer. Additionally they suggest that high consumption of polysaccharides may lead to elevated risk of CRC.

P2-92 HORMONE MARKERS AND ASTHMA IN YOUNG ADULTHOOD: RESULTS FROM A HISTORICAL COHORT

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Introduction Prevalence of asthma is higher in boys during childhood but in women in adulthood. Recent studies point to the role of hormones in explaining these gender-age differences but often single markers of hormone levels have been assessed. The aim of this study is to investigate the association of history of asthma in young adulthood with different hormone markers during adolescence.

Methods Historical cohort of students (11274 men and 3502 women) attending Glasgow University between 1948 and 1968, that participated to a health survey. Medical history of asthma, eczema/urticaria and hay fever were collected. Age of menarche, duration and regularity of menstruation and acne were also recorded.

Results Among women, older age of menarche (1-year increase) was associated with atopic asthma (asthma with eczema/urticaria or hay fever) (OR=1.39, 95% CI 1.05 to 1.85). Irregular menstrual cycle was associated with atopic asthma (OR=2.68, 95% CI 1.28 to 5.61) and atopy (eczema /urticaria or hay fever) (OR=1.39, 95% CI 1.05 to 1.83) but not with non-atopic asthma (OR=0.86, 95% CI 0.36 to 2.05). Acne was not robustly associated with atopic (OR=0.32, 95% CI 0.08 to 1.32) or non-atopic (OR=0.78, 0.33 to 1.86) asthma. Among men, those with acne had lower risk of eczema/urticaria alone (OR=0.44, 95% CI 0.29 to 0.68) but some evidence of higher risk of hay fever alone (OR=1.23, 95% CI 0.98 to 1.53).

Conclusion Age of menarche and irregular menstruation were associated with higher risk of atopic asthma and atopy in women whereas acne was associated with lower risk of eczema/urticaria among male students.

P2-93 MORTALITY FROM CHRONIC DISEASES IN BRAZIL, 1980–2008

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Introduction The profile of causes of death in Brazil has changed in recent decades. The objective is to describe the evolution of mortality from chronic diseases in Brazil, 1980–2008.

Methods Crude and age- and sex-standardised mortality rates (SMR) and proportional mortality ratios (PMR) were calculated from data from the Mortality Information System of the Ministry of Health.

Results In the period of 1980–2008, diseases of the circulatory system were the main cause of death (PMR=32.1% in 1980, 31.8% in 2008). Despite the stability of this indicator for the whole country, there were significant regional differences. Neoplasms were the fourth group of causes of death in 1980 (PMR=10.4), and the second in 2008 (PMR=16.8%), with a positive percentage change of 62.1%. This trend of strong growth was seen in all

regions, especially in the North (91.2%) and Northeast (87.1%). Of the 1 066 842 deaths registered in 2008, almost 60% had causes related to the circulatory system, cancer and respiratory tract. The SMR for diseases of the circulatory system was 139.5 deaths per 100 000 inhabitants, highest in the Southeast (143.2) and lowest in the North (113.8). For neoplasms, the SMR was 75.5 deaths per 100 000 inhabitants, higher in the South (92.6) and lowest in the North (57.7).

Conclusion From 1980 to 2008, there was a change in the mortality profile, with increased proportion of deaths due to causes related to chronic diseases, to the detriment of infectious and parasitic diseases. The social and economic differences between Brazilian regions are reflected in differences in mortality rates.

P2-94 TYPES OF SMOKERS, DEPRESSION AND DISABILITY IN TYPE 2 DIABETES: A LATENT CLASS ANALYSIS

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Despite the detrimental effects of smoking on health, a high number of adults with type 2 diabetes continue to smoke. Identifying distinct profiles of smokers could help tailor smoking intervention programs in this population and may help uncover high risk subgroups with unfavourable health outcomes. This study examined whether smokers with type 2 diabetes could be classified into different profiles based on socioeconomic characteristics, smoking habits and lifestyle factors. Depression and disability outcomes were compared across smoking profiles. A community sample of adults with self-reported diabetes was selected from random digit dialing. Analyses included 383 participants with type 2 diabetes who were current smokers. Participants were interviewed at baseline (2008) and re-interviewed 1 year later (2009). Latent class analysis was used to identify types of smokers. We uncovered three meaningful classes of smokers: (1) long-time smokers with long-standing diabetes (n=105), (2) heavy smokers with deprived socioeconomic status, poor health and unhealthy lifestyle characteristics (n=105), (3) working and active smokers, recently diagnosed with diabetes (n=173). Members of class 2 were significantly more likely to be disabled and depressed at baseline and follow-up compared with others. They were also less likely to have quit smoking at follow-up, despite attempting to quit as often as others. Different profiles of smokers exist among adults with type 2 diabetes. One class of smokers is particularly linked with depression, disability and a deprived socioeconomic situation. Distinguishing between types of smokers may enable clinicians to tailor their approach to smoking cessation.

P2-95 OBESITY INCREASES 28% IN 3 YEARS IN PREMENOPAUSAL LOW-INCOME CHILEAN WOMEN INDEPENDENTLY OF BODY SIZE MISPERCEPTION

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Introduction How body image perception (BIP) influences changes in Body Mass Index (BMI) in adult women has not been evaluated.

Objective To assess BMI-changes over a 3-year period and their relationship with BIP in a Chilean women population-based cohort.

Methods Weight and height were measured at baseline (32.0 ± 7.0 y) and at follow-up in 510 women participants in the GOCs study. BMI was used to classify women in normal (≤ 25 kg/m²), overweight (> 25 kg/m²), or obese (> 30 kg/m²). BIP was self-assessed at baseline using the Stunkard Figure Rating Scale (nine figures from very thin to very obese). BIP-discrepancy was defined as the disagreement between measured-BMI and assigned-BMI of the selected figure (defined on a previous validation study). Multivariate linear regression was used to assess the influence of BIP on BMI-changes stratifying by nutritional status and controlling for potential confounders (ie, parity, schooling, age).

Results At baseline, 61% had excess weight (37% overweight and 24% obese). In 3 years, this number increased to 70% (38% overweight and 31% obese). One out of 4 increased their BMI category, particularly normal women (28.9% from normal to overweight and 22.5% from overweight to obesity). At baseline, BIP-discrepancy was 66% and was associated to concurrent BMI only in obese (p-for-interaction < 0.05 ; coefficient_{all sample}=0.48; 95% CI -0.49 to 1.45; coefficient_{obese}=1.65, 95% CI 0.03 to 3.28). BIP-discrepancy was unrelated to the 3-year changes in BMI (p-for-interaction > 0.05 , coefficient = -0.45, 95% CI -0.95 to 0.04).

Conclusion In 3 years we observe a large BMI increase among young women of a post-transitional country. Body size misperception does not explain this large increase. Population strategies are needed to stop this detrimental trend.

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P2-96 CAN INCREASING PHYSICIAN FEE-FOR-SERVICE PAYMENTS IMPROVE SERVICE REGULARITY IN ELDERLY PATIENTS WITH CHRONIC DISEASE?

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Introduction Developed nations are experiencing increased burden on their health systems from chronic diseases. One avenue Australia is seeking to reduce this burden is via primary care services with increased financial incentives for physicians to provide more continuous care to elderly patients, especially those suffering from chronic diseases. This study assessed the influence of increased fee-for-service values on regularity and frequency of primary care visits, and examined the independent effects of demographic factors (age and gender) and chronic disease history.

Methods We performed a retrospective, population-based, longitudinal cohort study, linking routinely collected primary care service claims and hospital separation data in people aged 65 or more years in Western Australia from 2001 to 2006. Polytomous logistic regressions evaluated changes in the likelihood of increased primary care service regularity and frequency in exposed and unexposed individuals, adjusting for age, gender and recent chronic disease history.

Results The higher value services significantly and substantially increased relative likelihood (up to 14 times) of higher regularity with no corresponding higher frequency of primary care services. Increased regularity was more likely to occur with increasing age, except in the oldest age group (90+ years). Some chronic disease histories (eg, diabetes) conferred a higher likelihood of improved regularity than others (eg, hypertension).

Conclusion The study suggests a potential for modification of physician and patient behaviour using incentives within the current fee-for-service system in Australia. This type of incentive could be adopted in systems, which are not based on fee-for-service, as an additional incentive or bonus payment.