1.4 CARDIOVASCULAR

Chair: Dr. Susana Sans, Spain

EXPLAINING RECENT CORONARY HEART DISEASE MORTALITY TRENDS IN ENGLAND BY SOCIOECONOMIC CIRCUMSTANCES, 2000–2007

Results After exclusion of the first 4 years of follow-up, a total of 8349 cardiovascular deaths occurred in women aged 50–69 years during 2000–2009. In this period, the there was a 5% (95% CI 4 to 6%) overall annual reduction in cardiovascular mortality. Baseline body mass index, smoking status, alcohol consumption, socioeconomic status and geographical region were each strongly associated with cardiovascular mortality in multivariate models (p < 0.001), as expected. However, there was no strong evidence of differing trends in cardiovascular mortality across levels of these risk factors, consistent with little interaction between the risk factors and time trends in cardiovascular mortality.

Conclusion In this cohort of women from England and Scotland, the recent secular decline in cardiovascular mortality was evident both in high and in low cardiovascular risk individuals, according to several lifestyle and socioeconomic risk factors.

INDIVIDUAL PARTICIPANT ANALYSIS OF SECULAR TRENDS IN CARDIOVASCULAR MORTALITY IN UK WOMEN, 2000–2009

Results CHD mortality rates fell by 35% (219 to 142 deaths per 100 000), resulting in 38 070 fewer deaths in 2007 compared with 2000. Decreases in major cardiovascular risk factors were generally modest accounting for 257% of the total decrease in CHD mortality overall. This ranged from 250% in the most deprived quintile to 250% in the most affluent. The biggest contribution came from a fall in systolic blood pressure (233%). Other gains were modest: total plasma cholesterol (26%), smoking (4%) and inactivity (2%). Furthermore, these benefits were negated by increases in BMI and diabetes (11%).

Conclusions Much of the fall in CHD mortality in England between 2000 and 2007 was attributable to medical therapies, evenly distributed across social groups. This was unexpected, and probably reflects anecdotally small recent decreases in major cardiovascular risk factors, compounded by continuing rises in obesity and diabetes.

SEASONAL VARIATION IN BLOOD PRESSURE AMONG CHINESE ADULTS: THE KADOORIE BIOBANK STUDY OF 0.5 MILLION PEOPLE IN CHINA

Introduction Seasonal variation in blood pressure and its association with outdoor air temperature has been reported in several studies. However, large population-based studies are few and data from developing countries such as China are limited.

Methods Cross-sectional data from the Kadoorie Biobank Study were used to relate seasonal variation in systolic blood pressure (SBP) to outdoor air temperature in 510 000 Chinese adults aged 30–79 recruited during 2004–2008 at 10 widely separated study sites. Analyses related mean SBP—overall and in subgroups of the population—to mean local air temperature on the day of recruitment.

Results SBP was strongly inversely associated with temperature within all 10 areas studied, at least above 5°C, with a mean rise of 5.7 (SE 0.04) mm Hg per 1°C fall in outdoor temperature. The mean difference in SBP between summer (Jun–Aug) and winter (Dec–Feb) was 10 mm Hg, and was more extreme in rural than in urban areas (12 vs 8 mm Hg). The association was slightly stronger in older people, at lower body mass index, and in people taking antihypertensive medications. At low temperature the association was greatly attenuated in participants with central heating in their home.

Conclusion SBP is strongly inversely associated with outdoor temperature in Chinese adults, across a range of climatic exposures. Season or temperature and access to central heating should be considered a source of variation in epidemiological studies of blood pressure and in the clinical management of hypertension.
The objective of this study was to examine whether 10-year risk for incident stroke is associated with cognitive decline.

**Methods** Study sample comprised of 4512 men and 1741 women, mean age 55.6 years, from the Whitehall II study, a longitudinal British cohort study. The Framingham Stroke Risk Profile was used to assess 10-year risk of stroke. It incorporates age, systolic blood pressure, diabetes mellitus, smoking status, prior cardiovascular disease, atrial fibrillation, left ventricular hypertrophy, and use of hypertensive medication. Measures of cognitive function consisted of tests of reasoning, memory, phonemic and semantic fluency, and vocabulary, assessed three times over 10 years. Linear mixed models were used to determine longitudinal associations between stroke risk and subsequent cognitive decline over 10 years.

**Results** Higher stroke risk at baseline was associated with faster rate of cognitive in tests of reasoning, verbal fluency, vocabulary and global cognition. For example, compared to persons in the low stroke risk group (<2.5%), those in the moderate stroke risk group (2.5% < stroke risk <5%) and the high stroke risk group (≥5%) had a 12.5% and 45.8% faster rate of decline in phonemic fluency, respectively.

**Conclusions** Higher 10-year stroke risk in middle age is associated with faster rate of cognitive decline in more than one cognitive domain. These results support early targeting of vascular risk factors to prevent or delay cognitive decline.

---

**1.5 NUTRITION**

**Chair:** Prof. K. Srinath Reddy, India

**01-5.1 CLUSTER-RANDOMISED CONTROLLED TRIAL OF AN EARLY CHILDHOOD OBESITY PREVENTION PROGRAM: THE MELBOURNE INFANT FEEDING, ACTIVITY AND NUTRITION TRIAL (InFANT) PROGRAM**

do:10.1136/jech.2011.142976a.36

---

1K Hesketh, 2X Campbell, 1D Crawford, 1J Salmon, 1K Ball, 5S McNaughton, 2Z McCallum. 1Centre for Physical Activity and Nutrition Research, Deakin University, Melbourne, Victoria, Australia; 2University of Melbourne, Melbourne, Victoria, Australia

**Introduction** This study aimed to assess the effectiveness of a child-focused early obesity prevention intervention for first-time parents in existing social networks.

**Methods** The Melbourne InFANT Program is a cluster-randomised controlled trial involving 842 families from 62 first-time parent groups in Melbourne, Australia (87% recruitment; 90% retention). It focuses on positive diet, physical activity and reduced sedentary behaviours from 3 to 18 months of age.