

## Coronary heart disease

P01 **IS KNOWLEDGE OF CARDIOVASCULAR RISK FACTORS ENOUGH TO BRING ABOUT HEALTH PROMOTING BEHAVIOUR IN STUDENTS?**

doi:10.1136/jech.2010.120477.1

B P Jones. *Department of Vascular Surgery, Leeds General Infirmary, Leeds, UK*

**Objective** The aim of this study was to compare knowledge and lifestyles in relation to coronary heart disease (CHD) risk factors in a student population within the UK.

**Design** Cross-sectional study.

**Setting and Participants** A questionnaire was distributed to 279 students over four sites on the University of Leeds' main campus. This assessed the knowledge and lifestyles of the students using 55 close-ended multiple choice questions.

**Main Outcome Measures/Data Interpretation** The data were quantitatively analysed using a weighted scoring system. The data were descriptively analysed. Univariate modelling was accomplished with unpaired t-tests.

**Results** A significant difference in lifestyle score was evident between high and low knowledge groups ( $p < 0.05$ ) in the population studied. Furthermore, a significant, weak positive correlation was found between lifestyle and knowledge scores ( $R = 0.13$ ). Science-based students had a significantly better knowledge of CHD risk factors than arts-based students ( $p < 0.05$ ), without a significant improvement in lifestyle score ( $p = 0.15$ ). Females ( $p < 0.01$ ) and individuals with a family history of CHD ( $p < 0.05$ ) demonstrated significantly better lifestyles than males and individuals without a history of CHD, respectively, without a significant improvement in knowledge.

**Conclusion** This study confirms that lifestyle is related to CHD risk factor knowledge. It also indicates that various factors constrain behaviour. Social factors including perceived susceptibility, financial concerns, university culture, family history, discrepancies in knowledge and the risk taking nature that is prevalent in young adults may all influence behaviour in this population. Given that the pathogenesis of CHD begins early in life and health behaviour patterns attained during childhood extend into adulthood, this indicates that current trends in the health related behaviour of students is an area for concern. As CHD preventative efforts are predominantly focused on older generations, readdressing health promotion campaigns to include younger generations could disrupt the seemingly inevitable global increase in CHD. Given the role of CHD risk factor knowledge as a prerequisite for the intention of health promoting behaviour, the ongoing education of such information to the public is fundamental. However, it is equally important to address the variety of constraints that inhibit beneficial behavioural changes.

P02 **RISK FACTOR AND TREATMENT CONTRIBUTIONS TO THE CORONARY HEART DISEASE MORTALITY DECLINE IN A LOW RISK MEDITERRANEAN POPULATION: SPAIN 1988–2005**

doi:10.1136/jech.2010.120477.2

<sup>1</sup>G F Mateo, <sup>2</sup>M Grau, <sup>3</sup>M O'Flaherty, <sup>4</sup>R Ramos, <sup>2</sup>R Elosua, <sup>1</sup>C V Fors, <sup>2</sup>J Marrugat, <sup>3</sup>S Capewell. <sup>1</sup>*Institut d'Investigació en Atenció Primària Jordi Gol, Barcelona, Spain;* <sup>2</sup>*Epidemiology and Cardiovascular Genetics Research Group, Institut Municipal d'Investigació Mèdica (IMIM), Barcelona, Spain;* <sup>3</sup>*Division of Public Health, University of Liverpool, Liverpool, UK;* <sup>4</sup>*Unitat de Suport a la Recerca de Girona, Institut d'Investigació en Atenció Primària Jordi Gol, Institut Català de la Salut, Spain*

**Background** The "Mediterranean Paradox" means that low risk countries such as Spain experience substantially less cardiovascular

mortality than North Europe or the USA. Can cardiovascular mortality fall further?

**Objective** We examined the extent to which the decrease in coronary heart disease (CHD) mortality rates in Spain could be explained by changes in cardiovascular risk factors and by the use of medical and surgical treatments in Spain between 1988 and 2005.

**Methods** We used a previously validated IMPACT model to combine and analyse data on risk factor trends and uptake and effectiveness of evidence-based cardiac treatments among adult men and women aged 35–74 years. Main data sources included official statistics, longitudinal studies, national surveys, randomised controlled trials and meta-analyses. The difference between observed and expected CHD deaths in 2005 was then partitioned among specific treatments and risk factors. We also performed a sensitivity analysis to quantify the potential effect of parameter uncertainty.

**Results** From 1988 to 2005, the age-adjusted CHD mortality rate in Spain fell 40% among persons aged 35 to 74 years, resulting in 8528 fewer CHD deaths in 2005. Approximately 48.5% of the fall in CHD deaths was attributed to treatments and 50.6% to changes in risk factors. Among the treatments, the major contributions came from initial therapies for acute coronary syndromes (explaining approximately 13% of the mortality fall), secondary prevention (10%) and heart failure treatments (4%). Decreases in total cholesterol, systolic blood pressure and smoking prevalence explained approximately 37%, 24% and 16% of the mortality fall, respectively. However, important gender differences in risk factors trends were noted: diabetes and obesity increasing in men and smoking prevalence increased in women.

**Conclusions** Approximately half of the CHD mortality fall in Spain between 1988 and 2005 was attributable to reductions in major risk factors, and almost half to evidence-based therapies. These results are important, both for understanding past trends, and, crucially, for planning future prevention and treatment strategies in low-risk populations.

P03 **\*EXPLAINING THE DECLINE IN CORONARY HEART DISEASE MORTALITY IN NORTHERN IRELAND BETWEEN 1987 AND 2007**

doi:10.1136/jech.2010.120477.3

<sup>1</sup>J Hughes, <sup>1</sup>F Kee, <sup>2</sup>K Bennett, <sup>3</sup>M O'Flaherty, <sup>4</sup>J Critchley, <sup>3</sup>S Capewell. <sup>1</sup>*UKCRC Centre of Excellence for Public Health (NI), Queen's University, Institute of Clinical Sciences B, Grosvenor Road, Belfast, UK;* <sup>2</sup>*Trinity Centre for Health Sciences, St James's Hospital, Dublin 8, Ireland;* <sup>3</sup>*Department of Public Health, University of Liverpool, Whelan Building, Liverpool, UK;* <sup>4</sup>*Institute of Health and Society, Medical Sciences New Building, Newcastle University, Newcastle upon Tyne, UK*

**Purpose** In 1987, Northern Ireland had one of the highest rates of coronary heart disease (CHD) mortality in the world. However, CHD mortality has declined substantially over the last 2 decades. The purpose of this study is to determine the contribution of changes in CHD risk factors to CHD mortality decline from 1987 to 2007.

**Methods** The validated IMPACT CHD mortality model was used in all calculations. We included data describing population size, CHD mortality and risk factor trends in adults aged 25–84 years old between 1987 and 2007. Regression coefficients and RR from the published literature quantified the relationship between population changes for a specific CHD risk factor (ie, smoking, diabetes, systolic blood pressure, total cholesterol, physical inactivity and obesity) and CHD mortality. The outcome of interest was the number of deaths prevented or postponed (DPPs) associated with changes in each specific CHD risk factor. Sensitivity analysis was applied to these estimates.