

Coronary heart disease

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

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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

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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

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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.

Results Preliminary results from 1987 to to 2007 indicate that the overall age-standardised CHD mortality rate in Northern Ireland (age 25–84 years) fell from 361 to 124 deaths per 100 000 inhabitants, resulting in an estimated 3180 fewer CHD deaths in 2007. Changes in CHD risk factors produced a total of 2090 fewer CHD deaths (minimum estimate 1410; maximum estimate 2820) in Northern Ireland. These reductions therefore accounted for approximately 65% of the total decrease in CHD mortality. The largest effect came from the substantial fall in total cholesterol (explaining approximately 40% of the reduction in CHD mortality), followed by reductions in smoking (24%) and population systolic blood pressure (17%).

However, increases in some risk factors had a negative effect, actually increasing CHD mortality: diabetes prevalence (–9%), physical inactivity (–5%) and BMI (–2%). Research is currently underway to estimate the additional contribution of improved treatment uptake and effectiveness to the reductions in CHD mortality.

Conclusions Approximately two thirds of the recent large fall in CHD mortality in Northern Ireland between 1997 and 2007 was attributable to reductions in major cardiovascular risk factors. However, adverse trends in diabetes, obesity and physical inactivity are of major concern. More aggressive policies to promote healthy food and increase physical activity may therefore be needed to decrease future CHD deaths.

*High scoring abstract.

P04 AGE- AND GENDER-SPECIFIC RISK OF DEATH AFTER FIRST HOSPITAL ADMISSION FOR HEART FAILURE

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Objective Heart failure (HF) is an important public health problem. Detailed information on prognosis following hospital admission is crucial for cost-effectiveness analysis and determination of the burden of HF on the health care system. However, such data are scarce. Therefore, the objective of this study was to provide mortality risk following hospital admission stratified by age- and gender.

Design Hospital based follow-up study.

Setting and Participants A nationwide cohort of patients hospitalised for the first time for heart failure was identified through linkage of national registers in 1997 and 2000. The total population of the Netherlands in 1997 and 2000 was 15 567 107 (men 7 696 803, women 7 870 304) and 15 863 950 (men 7 846 317, women 8 017 633), respectively.

Main Outcome Measure The crude short-term (28 day), 1-year and long-term (5-year) mortality was computed by age and gender according to the actuarial life table method and expressed as percentages. The mortality rate in men was compared to mortality rate in women by calculating RR (with 95% CI).

Results 14 529 men, mean age 74±11 years and 14 524 women, mean age 78±11 years were identified. Mortality risk after admission for HF increased with age from 35–44 years to 75–84 years (men: 28-day mortality from 7.5% to 32.9%, 1-year mortality from 17.2% to 58.6% and 5-year mortality from 34.2% to 87.1%; and women: 28-day mortality from 6.9% to 27.2%, 1-year mortality

from 14.9% to 49.9% and 5-year mortality from 27.6% to 84.1%). The risk of death was higher among men than women of the same age.

Conclusions There are clear age and gender differences in short- and long-term risk of death after first hospitalisation for heart failure. This information is helpful for clinicians, policymakers and service planners. Findings will also be useful for the development of models that evaluate cost-effectiveness and impact on outcomes of heart failure management programmes, and for predicting the future health care burden of heart failure.

Diabetes

P05 EXPLORING THE IMPACT OF THE QUALITY AND OUTCOMES FRAMEWORK ON THE QUALITY OF DIABETES CARE AND HEALTH CARE INEQUALITIES IN ENGLAND

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Introduction Previous analyses suggest that over the first 3 years of the national Quality and Outcomes Framework (QOF) quality of care has improved and inequalities in diabetes care between practices have significantly reduced. In this study, we have reviewed the literature and undertook an exploratory analysis of the first 5-year QOF data with practices ranked by deprivation tertiles to assess the impact of QOF on the quality of diabetes care and health care inequalities.

Objectives To use data from QOF to assess whether the quality of diabetes care has continued to improve between its introduction in 2004/2005 and 2008/2009, whether the gap between practices in the most deprived and the least deprived tertiles has closed, and whether the national patterns are also seen in a city with significant geographical inequalities.

Design Exploratory analysis of the QOF data from 2004/2005 to 2008/2009.

Participants All general practices in England and practices in the city of Sheffield.

Main Outcome Measure Trends in the process and outcome measures of diabetes care and in the gap between the most deprived and the least deprived tertiles.

Results In England the mean proportions of patients with HbA1c, blood pressure (BP) and cholesterol reviewed and the mean proportions of those achieving outcome targets for HbA1c (7.5%), BP (145/85) and cholesterol (5 mmol/l) were noted to be higher than the QOF upper thresholds of 90% and 60% for the process and outcome indicators, respectively, and these increased over time with most practices levelling off by 2008/2009. A comparison of these increasing trends between practices in the most deprived and least deprived areas revealed that the gap that was significantly wide in 2004/2005 had narrowed over the years and appeared to have disappeared by 2008/2009. For Sheffield, a city with significant geographical inequalities, although the mean proportions achieving the outcome targets were generally above the QOF upper threshold of 60%, these tended to fluctuate between practices in the most deprived and least deprived areas—without consistent narrowing of the gap for all indicators.

Conclusion Overall there was narrowing of the inequality gap and improvements in the quality of diabetes care for Sheffield and England as a whole with most of the improvements levelling off by the year 2008/2009. However, for some of the indicators there were differences between Sheffield and England as a whole.