1.4 CARDIOVASCULAR

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

Methods

Using a previously validated epidemiological model we estimated the contribution of risk factor changes and evidence-based treatments to reduce CHD mortality in adults aged over 25 years between 2000 and 2007 in England, both overall and by deprivation quintiles.

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 37% of the total decrease in CHD mortality overall. This ranged from 50% in the most deprived quintile to 30% in the most affluent. The biggest contribution came from a fall in systolic blood pressure (−33%). Other gains were modest: total plasma cholesterol (−6%), 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 frustratingly 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.