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Death rates from heart disease continue to decline in most of the EU, but some countries are 'cause for concern'

Death rates from heart disease in the European Union have more than halved in many countries since the early 1980s, according to new research published online today (Wednesday) in the *European Heart Journal* [1]. In the majority of countries, there have been ongoing steady reductions in heart disease death rates in both sexes and most age groups, including among younger people, despite increases in obesity and diabetes during this time. However, heart disease remains a leading cause of death in Europe.

The authors of the study say their analysis shows little evidence for the hypothesis that the reduction in deaths from coronary heart disease (CHD) might be beginning to plateau among younger people in the EU as a whole as the gains from reduced smoking rates are increasingly cancelled out by recent upward trends in obesity, diabetes and other risk factors for heart disease.

However, there was significant variation between individual countries, and evidence of a levelling off and even increases in heart disease deaths among some age groups in some countries. The absolute numbers of deaths from CHD remain high, even in countries showing encouraging downward trends in mortality.

"It is clear that there are some countries in which trends are cause for concern, where overall rates of decrease in CHD mortality do appear to have slowed, and a small number of countries in which CHD mortality rates have begun to increase significantly in recent years or decades in younger subpopulations," said Dr Melanie Nichols, a Research Associate from the British Heart Foundation Health Promotion Research Group at the University of Oxford (UK), who is now working as a research fellow at Deakin University, Australia. "In addition, we should emphasise that cardiovascular disease remains the leading cause of death in Europe, and it is important that we continue to focus efforts on primary prevention, including reducing smoking, improving diets and physical activity levels." [2]

Dr Nichols and her colleagues in the Oxford research group looked at trends in deaths from coronary heart disease between 1980 and 2009 in both sexes and four age groups: under 45, 45-54, 55-64, and 65 years and over.

They found that almost all EU countries had a large and significant decrease in death rates from CHD over the last three decades in both men and women when all ages were considered together. Denmark, Malta, The Netherlands, Sweden and the UK had the largest decreases in mortality for both sexes during this time. The exceptions to these significant decreases were among men in Hungary, Latvia, Lithuania and Poland, where the decreases were small and not statistically significant, and in Romania where there was a small, statistically significant increase.

Among women, non-significant decreases were found in Greece, Hungary, Lithuania, Poland, Romania and Slovakia.

There was some evidence that the downward trends were beginning to plateau in those aged under 45 among men and women in Italy, Latvia, Lithuania and the UK, among men in Poland and Slovakia, and among women in the Czech Republic and France. In the 45-54 year age group, there was evidence of a possible plateau in both sexes in Latvia and the UK, and also in Lithuania among women and Sweden, Austria, the Czech Republic and Slovakia among men. In Greece, women aged 45-54 showed a constant and significant increase in death rates.

Dr Nichols, said: "Overall, across the EU, rates of death from coronary heart disease have continued to fall in most age groups in most countries. There are some exceptions, however, and there remain wide disparities across Europe in both the absolute rates of death from heart disease and the rates of improvement.

"In a small number of countries, there is some evidence that the decreasing trends may be slowing, including among younger age groups, probably due to increases in risk factors such as obesity and diabetes. These countries are, however, clearly in the minority."

In their paper, the authors say that the increase in risk factors for coronary heart disease, such as smoking, obesity and diabetes, could still have an impact on death rates in years to come. "This effect is, however, not yet clearly apparent across the EU, and there may still be time for public health policy and action to have an impact on these risk factors . . . ,", they write. "It is crucial that future research continues to monitor trends in CHD risk factors and mortality across the EU and to examine the relationships between preventable risk factors and CHD among younger adults. Any indications of potential plateauing of CHD mortality trends among younger age groups – which were evident in this study for some countries but not yet for the EU as a whole – would be an important advance warning of potentially very high future burden of CHD as the cohort ages."

Dr Nichols points out that their results could be affected by differences in the way countries record and code data. In addition, the researchers were unable to look at any of the reasons for differences between countries, or to draw links between these results and the possible causes within countries.

(ends)

Notes:

[1] "Trends in age-specific coronary heart disease mortality in the European Union over three decades: 1980-2009", by Melanie Nichols, Nick Townsend, Peter Scarborough and Mike Rayner. *European Heart Journal*. doi:10.1093/eurheartj/eh159

[2] Cardiovascular disease causes over four million deaths a year in Europe and over 1.9 million in the European Union. It causes 47% of all deaths in Europe and 40% in the EU. Ref: "European Cardiovascular Disease Statistics 2012", by Nichols M, Townsend N, Scarborough P, Luengo-Fernandez R, Leal J, Gray A, Rayner M. European Heart Network: <http://www.ehnheart.org/cvd-statistics.html>

[3] The British Heart Foundation funds the authors' positions at the University of Oxford. The study

arises from the European Heart Health Strategy II project (EuroHeart II), which has received co-funding from the European Union, in the framework of the Health Programme. The EuroHeart II project is coordinated by the European Heart Network and the European Society of Cardiology.

The report can be downloaded via this link: <http://eurheartj.oxfordjournals.org/content/early/recent>

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