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1990 and 1999 corresponds to a quarter of a serving per day. In the nurses’ health study and a companion cohort in men, the relative risk was 0.94 for an increase of one serving of fruit per day, which would predict a reduction of only 1-2%.

Comment

The experience of Poland is consistent with epidemiological and clinical evidence indicating that mortality due to coronary heart disease can be reduced by partly replacing dietary saturated fats with polyunsaturated fats while maintaining a low intake of trans fatty acids. Polysaturated fat reduces serum concentrations of low density cholesterol, but this cannot account for the size and rapidity of changes in coronary mortality in Poland. A higher intake of polysaturated fat also improves endothelial function, reduces platelet aggregability, and reduces ventricular fibrillation. The net effect can therefore be appreciated only by evaluating coronary end points. Increased intakes of polysaturated fat also probably explain most of the major declines in coronary mortality in the United States, United Kingdom, and Australia over several decades.

Both omega 3 fatty acids and omega 6 fatty acids seem to contribute to reductions in coronary risk.

According to statistics from the United Nations Food and Agricultural Organisation, the increase in polyunsaturated fat in Poland during the 1990s was primarily from rapeseed and to a lesser degree from soya bean oil; intake of omega 3 and omega 6 fatty acid would therefore have increased, making it difficult to distinguish their relative contributions to the drop in mortality. Statistics from the Food and Agricultural Organisation do not consider changes during processing; but a conscious effort was made in Poland to minimise the trans fat content of margarines made from these oils.

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Competing interests: None declared.

Ethical approval: Not needed.

What this study adds

This decline has continued through 2002, with most of the decline probably resulting from a large increase in consumption of non-hydrogenated rapeseed and soya bean oil, rather than from reductions in smoking and an increase in fruit intake.

Commentary: Will Europe’s agricultural policy damage progress on cardiovascular disease?

Karen Lock, Martin McKee

Trends in cardiovascular disease in Europe have shown an east-west divide for over 30 years. Rapid declines in the European Union contrast with stagnant or rising trends in Russia and central and eastern Europe, with some notable exceptions, such as Poland and the Czech Republic, where rates have fallen since the 1990s. These improvements are attributed primarily to improved nutrition, which can be traced to the economic transition that followed political change in the late 1980s.

In Poland many food subsidies, in particular for animal fats, were abolished. Wider availability and lower prices for unsaturated fats and fruits caused rapid dietary changes. Zatonski and Willett explore the impact of these changes, suggesting that the reduction of over a third of coronary heart disease in Poland between 1990 and 2002 can be attributed mainly to increased consumption of polyunsaturated fats, with sustained reduction in saturated fats. They estimate that the small reduction in smoking and the increase in the intake of imported fruit have made little impact on cardiovascular disease.

The paper clearly shows that dietary change had a major impact on cardiovascular mortality, but the
Lung cancer mortality at ages 35-54 in the European Union: ecological study of evolving tobacco epidemics

Joanna Didkowska, Marta Manczuk, Ann McNeill, John Powles, Witold Zatonski

Epidemiological analyses indicate that disease attributable to smoking is a leading contributor to the large gap in premature mortality between the 15 countries that formerly made up the European Union and the new member states from central and eastern Europe.1 However, the prevalence of smoking in most countries has not been measured in a sufficiently consistent way, or over a long enough period, to be used to predict trends in diseases caused by smoking.

Participants, methods, and results

Lung cancer mortality can provide a useful measure of a population's exposure to smoking,1,2 especially the population segment aged 35-54, when around 80-90% of cases are caused by smoking. We used trends, for each sex, in age standardised mortality due to lung cancer for ages 35-54 to map the lagged effects of the smoking epidemic in the 15 original EU member states and new members from central and eastern Europe, and to infer the earlier trends in tobacco exposure. We calculated death rates, using five year age groups, from deaths attributed to lung cancer in national data and population estimates submitted to the World Health Organization.1

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