A half ounce of prevention . . .

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This editorial refers to ‘Achievement of treatment goals for primary prevention of cardiovascular disease in clinical practice across Europe: the EURIKA study’, by J.R. Banegas et al., on page 2143

An ounce of prevention is worth a pound of cure. Enormous progress has been made in diagnosis and management of cardiovascular disease, resulting in improved life expectancy in most countries in Europe. Similarly we know that the onset of atherosclerosis and its sequellae (angina, myocardial infarction, stroke, heart failure, and sudden death) can be prevented, or rather deferred, by optimal management of hypertension and diabetes, by avoidance of smoking and overweight, and by lowering of LDL-cholesterol through diet or medication with statins. However, this is easily said but difficult to achieve in practice. The EURIKA study demonstrates again that many subjects known to be at increased risk for development of cardiovascular disease have an undesirable lifestyle and risk factors that remain uncontrolled. EURIKA analysed 7641 subjects with known risk factors from 12 European countries, ≈650 subjects from each country, sampled using a database of general practitioners. Of these ≈44% were obese, 21% were smokers, 27% had diabetes, 73% had hypertension, and 58% were known to have elevated lipid concentrations. In spite of medical treatment, diabetes was not adequately controlled since glycated haemoglobin (HbA1c) remained >6.5% in 73% of the patients. Blood pressure was not controlled in 61% of treated hypertensives and only 41% of hyperlipidaemic patients reached the targets of LDL <3 mmol/L and total cholesterol <5.0 mmol/L.

The lack of control of these risk factors in primary prevention was similar to the proportion of patients with coronary disease in the EUROASPIRE-III survey who did not reach the targets as specified in European guidelines. It is difficult indeed to reach the specified targets for primary—or secondary—prevention. Nevertheless the EURIKA data show that better results can be obtained, since there was a large variation in prevention across various countries. As the authors indicate, these differences may be related to lack of compliance of patients, in particular obese patients, a less rigorous approach to prevention in women, and differences in the socio-economic situation and healthcare systems between the western and eastern European countries. Better adherence to the guidelines may be achieved through nurse-led prevention programmes as shown by the EUROACTION study.

The authors conclude that ‘a more comprehensive application of the recommendations of the European guidelines’ is appropriate. This cannot be refuted. However, a few critical remarks are also appropriate. It seems unrealistic to expect that the ‘targets’ can be achieved in the majority of subjects at risk (primary prevention) or in patients with known coronary disease (secondary prevention). Between 1995 and 2007 a series of surveys by the European Society of Cardiology in different groups of patients with coronary artery disease have shown a gradual increase in the use of preventive medication (Figure 1). In the same period, little progress was made in lifestyle modification. The proportion of smokers remained unchanged and the numbers overweight increased. In the most recent surveys, from 2005 onwards, the proportion of patients receiving different drugs stabilized, with ≈95% receiving anti-thrombotic drugs, 90% statins, 85% β-blockers, and 65% an angiotensin-converting enzyme inhibitor (ACE-I) or angiotensin receptor blocker (ARB). In EURIKA, diabetes was treated medically in 87%, hypertension in 94%, and hyperlipidaemia in 74% of patients. No data are reported about the specific drugs prescribed in EURIKA and the doses used. Nevertheless it is likely that more patients might be treated with drugs and that the doses might be increased in some. Also, more effective drugs might be prescribed to treat hypertension or other drugs might be added. However, more intensive drug therapy is also associated with more side effects and higher costs. For example, costs for 1 year treatment with statins vary from ≈€7 for simvastatin 40 mg (generic), to €608 for rosuvastatin 40 mg, and even €1094 for atorvastatin 80 mg (The Netherlands, February 2011). Costs for multiple drugs to ‘optimally’ treat hypertension or hyperlipidaemia may be too high for many patients in the less affluent countries but also for those in the wealthy countries in Europe. We do not know what the levels of the risk factors were before treatment in EURIKA or in other surveys. Thus we cannot judge whether a significant reduction of risk was achieved and in which patients better risk control would be a realistic target.
A second critical remark relates to the target of body weight. In EURIKA and the EUROASPIRE studies the target was a body mass index (BMI) $\geq 30$ kg/m$^2$ (obese) or even $\geq 25$ kg/m$^2$ (overweight). Indeed, most studies have shown an excess of cardiovascular events in overweight and obese subjects. However, a different picture arises for total mortality which is increased only in subjects with severe obesity, BMI $\geq 35$ kg/m$^2$ in men and BMI $\geq 33$ kg/m$^2$ in women.5 In an ideal world, according to the guidelines, all subjects would have a BMI between 20 and 25 kg/m$^2$, blood pressure $\leq 140/90$ mmHg or even $\leq 130/80$ mmHg, and an LDL $\leq 3$ mmol/L or even 2.5 mmol/L, and refrain from smoking. However, it is difficult for patients and for physicians to fight on multiple fronts. Perhaps we should be less critical about body weight and focus on smoking, the content of dietary fats, and medication.

Thirdly, it may be questioned whether the patient samples are representative for the different countries in the study. The relatively small number from each country, $\sim 650$, is too small to make valid comparisons between various countries. However, the conclusions that many subjects remain at risk, and that there are major differences in the level of risk control across Europe, are robust and consistent with other surveys.2 Furthermore it should be appreciated that centres or physicians participating in such surveys are usually more aware of the guidelines than others. Therefore the true situation may be worse than the EURIKA report implies. ‘An ounce of prevention is worth a pound of cure’. However, we achieve a half ounce at best, and that is not enough!

The EURIKA study was supported by a pharmaceutical company, Astra Zeneca, which will profit from more prescriptions of blood pressure and lipid-lowering drugs as recommended in the report. Indeed, many surveys are supported by industry with an interest in the outcome of these studies. Yet, this does not invalidate the findings and the message from the investigators that preventive therapy can be and should be improved across Europe. It is a challenge for all of us, physicians in general practice as well as specialists, to optimize lifestyle and preventive therapy in our patients and in the population at large. To optimize lifestyle and drug therapy implies that these should be tailored to the needs and the possibilities of the population and of the individual subjects, accepting that ‘targets’ are a goal, but also accepting that this will not be reached by many. Not all players will become champions, many will never reach the top, but they continue their efforts nevertheless.

Conflict of interest: none declared.

References
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