Letters to the Editor

Response to Conroy et al. SCORE Project

Dear Sir

In recent years, the practice of coronary heart disease prevention has seen a shift from a focus on single risk factors to an emphasis on the total burden of risk (global risk approach). We note the publication the Systematic Coronary Risk Evaluation (SCORE) project by Conroy et al. as an interesting contribution to this approach in Europe. However, certain features of this paper are worthy of comment.

First, the SCORE project calculated the total cardiovascular risk rather than the risk of coronary heart disease. This was done to give a better estimate of risk to the person, to provide a better reflection of the health service implications of cardiovascular risk factors, and because non-coronary cardiovascular disease represents a greater proportion of all cardiovascular risk in European regions with low rates of coronary heart disease. These reasons are understandable. However, this approach may cause difficulties in practice. The risk factor profiles for stroke and coronary heart disease are quite different, since blood pressure is a more important determinant of stroke than of coronary heart disease while the reverse is true of blood lipid levels. In addition, the risk factor profiles of ischaemic and haemorrhagic stroke vary widely. Thus lumping these two conditions together will lead to a distortion when the resultant risk factor chart is used to calculate risk of one component of cardiovascular disease.

Our second comment concerns the fact that SCORE is based on fatal events only. This was done to avoid the difficulties surrounding the variation in definition and ascertainment of non-fatal events across studies. Again, this approach is understandable. However, it creates major problems for the validity and applicability of SCORE since it relies on local and national mortality statistics. These are based on death certificates, the accuracy and validity of which are under debate. For example, the World Health Organisation Monitoring of Trends and Determinants in Cardiovascular Disease (MONICA) Project has shown that levels and trends of official mortality data and validated register-based coronary and stroke mortality rates may vary substantially. Moreover, the decreasing mortality rates for coronary and cerebrovascular disease in many European countries may give the wrong impression that population risks are descending at the same speed. In fact, case fatality is, survival after an event-accounts for one to two thirds of this decrement. A further difficulty is that cardiovascular mortality data do not distinguish between deaths following first or recurrent events. Since the proportion between first and recurrent events may differ between populations and certainly differs between coronary heart disease and stroke, the usefulness of such data as the basis for individual risk prediction is limited. For all these reasons, sole reliance on mortality data is potentially misleading when assessment of total risk is the objective.

Thirdly, SCORE does not include several important risk factors such as family history for coronary heart disease, impaired glucose tolerance or hypertriglyceridaemia. While this reflects the database of studies used in compiling SCORE, the absence of these risk factors is an important limitation, as is noted by Conroy and colleagues themselves. Thus, a clear high-risk patient with a positive family history of coronary heart disease and high fasting glucose and triglycerides might easily have a 10-year SCORE risk of less than 10%, leaving his physician with a false sense of security. This limitation is of particular importance since positive family history and metabolic syndrome are very common in the general population. In addition, while high-density lipoprotein cholesterol, a further component of the metabolic syndrome, did not appear to provide additional information in the SCORE risk table, there is no doubt about the value of this parameter as a risk predictor on an individual level.

Finally, for all their usefulness, scoring charts can lead to a substantial misjudgement of risk in persons with one or more risk factors at the upper or lower end of a risk factor category. Because lipid lowering or antihypertensive medication usually needs to be given life-long, the decision to prescribe such drugs is not a trivial one. We therefore suggest that charts may be a useful means of initial screening of patients, but that a decision to begin drug treatment should only be taken on the basis of a more precise calculation of absolute risk using one of the widely available more comprehensive risk algorithms.

Some have recently suggested the use of a 'polypill' as a 'one size fits all' solution to coronary heart disease prevention, but we remain convinced that good medicine is best tailored to the needs of the individual patient. Unfortunately, the oversimplification of the SCORE charts seems to us to be more in tune with the polypill philosophy than with the more difficult project of true individual risk prediction.

References

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