Screening individuals and families with premature coronary heart disease: a clinical and public health challenge

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In this issue De Sutter and colleagues1 make several important and timely contributions:

First, they summarize the data from numerous retrospective and prospective epidemiologic studies of family history and premature onset of coronary heart disease. The data seem to consistently show that individuals with a positive family history of premature onset of coronary heart disease have an increased risk, which is independent of other coronary risk factors. The magnitude of the increased risk is generally about 2-fold with somewhat higher estimates present for those whose first-degree relatives had earlier onset of premature coronary heart disease.

Second, they discuss why family history may be used to target populations for more intensive risk factor modification. Specifically, if a patient has a 10-year risk of coronary heart disease of about 10% based on the existing modifiable coronary risk factors, the presence of a positive family history of premature coronary heart disease may increase that absolute 10-year risk to about 20%. Based on recently published United States federal guidelines for lipid modification,2 the goal for low density lipoprotein cholesterol for patients with 10-year risks of 20% or greater, 10–19%, or less than 10% are 100, 130, and 160 mg dl, respectively.

Third, the Joint Task Force of European and other Societies on Coronary Prevention advised in 19943 as well as in 19984 screening close relatives of patients with premature coronary heart disease for risk factors. An implicit assumption underlying the concept of screening is that early detection before the development of symptoms will lead to a more favourable prognosis because treatment begun before the disease becomes clinically manifest will be more effective than later treatment. This assumption has intuitive appeal and screening has played an important role in improving public health over the years. In some circumstances, the search for early asymptomatic disease is now considered a routine and important aspect of good medical care, yet the concept of screening, including its appropriateness and evaluation, is not as straightforward as it may at first appear. To be appropriate for screening, a disease should be serious, treatment given before symptoms develop should be more beneficial in terms of reducing morbidity or mortality than that given after they develop; and the prevalence of preclinical disease should be high among the population screened.5 On all these aforementioned issues, the Joint Task Force of European and other Societies on Coronary Prevention make cogent arguments for screening for coronary risk factors of close relatives of patients with premature coronary heart disease.

Fourth, and of greatest importance and timeliness, despite several study limitations acknowledged by the authors, in the EUROASPIRE II family survey, screening is rarely performed in daily clinical practice. This situation prevails despite the fact that these individuals have a high prevalence as well as familial aggregation of coronary risk factors. Since the absolute risks of patients with multiple risk factors is far greater than the simple arithmetic
sum of the individual risks, these patients appear to represent a high risk target population that would benefit from screening and intervention. The data from EUROASPIRE II indicate that healthcare providers rarely screen patients with a positive family history of premature onset of coronary heart disease for coronary risk factors. Overall, screening for coronary risk factors because of coronary heart disease in the family was performed in 11.1% of siblings. Further, general lifestyle advice or specific risk factor intervention is rarely practised. Specifically, less than 50% of siblings were given some general lifestyle advice regarding coronary risk factors. With respect to children, screening for coronary risk factors because of coronary heart disease in the family was only performed in 5.6% of children and less than 25% of these were given some general lifestyle advice regarding cardiac risk factors. Moreover, active interventions such as starting antihypertensive or lipid lowering drugs were rarely carried out especially in children of patients with premature onset of coronary heart disease. Although screening for disease control in children and young adults remains controversial, the most recent guidelines from the Task Force on Prevention of the American Heart Association recommend this strategy for all individuals aged 20 and older. These guidelines suggest that screening, risk factor management, and promoting a healthy lifestyle in young adults are, at a minimum, reasonable measures to prevent the development of future coronary heart disease.

In conclusion, the alterations in behaviours of healthcare providers recommended by the EUROASPIRE II investigators would have major clinical impacts on individual patients as well as public health impacts on society as a whole for a disease as common and serious as coronary heart disease. Thus, the EUROASPIRE II investigators have provided importantly relevant and timely data that present a major clinical and public health challenge.

References

1. De Sutter J, De Bacquer D, Kotseva K et al., on behalf of the EUROASPIRE study group. Screening of family members of patients with premature coronary heart disease: results from the EUROASPIRE II family survey. Eur Heart J 2003; 24:249–57.


