

*Continued from page 17*

among women than among men, especially for women <60 years, among whom smoking increased from 37.3% to 73.1% and obesity increased from 17.6% to 27.1%. Prof. Danchin noted that these findings indicate the crucial need to target future preventive measures toward younger women. Overall, significantly fewer patients had a CV history ( $p < 0.001$ ), but significantly more had typical risk factors, such as hypertension ( $p = 0.006$ ) and hypercholesterolemia ( $p = 0.001$ ) compared with 15 years ago.

The study also demonstrated significant increases in the use of reperfusion therapy compared with 15 years ago, with the rate of percutaneous coronary intervention increasing from 11.9% to 60.8% ( $p < 0.001$ ). The use of evidence-based interventions within the first 48 hours, such as treatment with  $\beta$ -blockers, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, and statins, also increased significantly ( $p < 0.001$ ). In addition, the time from onset of symptoms to first medical contact significantly decreased over time ( $p < 0.001$ ). All of these factors likely contribute to the decreasing mortality rate observed over time.

Filippo Crea, MD, PhD, Institute of Cardiology, Catholic University of the Sacred Heart, Rome, Italy, noted that the study had several strengths, but its weaknesses included potential bias related to a prevalent inclusion of large-volume hospitals and a lack of information on infarct size, microvascular obstruction, and ejection fraction at discharge; and lack of follow-up data on recurrence of acute coronary events.

## Results from the PURE Study

*Written by Maria Vinall*

Results from the Prospective Urban Rural Epidemiology [PURE] study, presented by Salim Yusuf, MD, McMaster University, Hamilton, Ontario, Canada, indicated that different strategies are needed to influence health behaviors in countries, depending upon their socioeconomic status. In relatively low-income countries, key strategies include making healthy foods accessible and affordable, and promoting smoking cessation. Among relatively more high-income/industrialized countries, efforts should be focused on increasing physical activity and decreasing fat consumption, while continuing to promote smoking cessation.

Diet, physical activity, and smoking account for 50% to 60% of the risk for cardiovascular disease (CVD) [Yusuf S et al. *Lancet* 2004; Tu JV. *Lancet* 2010]; however, these factors vary markedly both across and within countries, due to environmental and societal factors. The PURE study

was designed to create an understanding of these factors in order to develop contextually appropriate strategies for CVD prevention.

The PURE study was comprised of 153,996 individuals (aged 35 to 70 years; 42.1% men) from 348 urban and 280 rural communities in 17 low-, middle-, and high-income countries for whom data on diet, physical activity, and smoking were collected during 2003-2010. Validated food frequency questionnaires were used to record diet; physical activity (recreational and nonrecreational/obligatory) was collected using the International Physical Activity Questionnaire. These factors, plus smoking prevalence (ever, current, and quitting) were then related to country gross domestic product (GDP; World Bank statistics) and household wealth (wealth index) overall and separately for individuals from urban and rural areas.

Results from the PURE study showed that among those living in low-income countries there is less consumption of fruits, vegetables, proteins and fats, and a higher consumption of carbohydrates, which researchers attributed to the affordability of different foods. Activity levels were higher in low-income countries due to a higher level of obligatory physical activities (mostly work and transportation-related). Smoking was also more prevalent among individuals in low-income countries. As country GDP increased, there was an increased consumption of fruits and vegetables, accompanied by a higher percentage of energy obtained from total (but not saturated) fats and proteins, with a lower percentage of energy from carbohydrates. Physical activity declined with increasing GDP mostly because of a marked decline in obligatory/nonrecreational activity that was not compensated for by an increase in recreational physical activity. In all categories studied, the association of household wealth to diet, physical activity, and quitting smoking were similar to that observed for GDP.

“Policies to prevent CVD need to focus on different aspects of lifestyle among the rich versus the poor and between rich and poor countries,” said Prof. Yusuf. “In particular, healthy foods need to become more affordable.”

## PURE: Treatment and Control of Hypertension

*Written by Lori Alexander*

Hypertension is a global epidemic; yet rates of awareness, treatment, and control are lower than expected around the world, according to the results of the Prospective