

Psychosocial Risk Factors Raise CV Disease Risk

The INTERHEART study confirms 'the similarly large role of multiple risks across populations.'

BY KEVIN FOLEY
Senior Writer

Psychosocial risk factors such as stress, depression, and low generalized locus of control are associated with an increased risk of acute MI among patients of all ages and of both sexes from every region of the world, according to two reports from the INTERHEART study.

By determining the role of risk factors across sociocultural conditions, the study may help researchers and policy makers in designing effective prevention programs to reduce the burden of MI all over the world, said Salim Yusuf, D.Phil., of the Population Health Research Institute, Hamilton (Ont.) General Hospital, and his associates.

The INTERHEART investigators gathered data from a total of 262 centers in 52 countries.

In the first study of 11,119 patients enrolled within 24 hours of acute MI and 13,648 controls matched by age and sex, the researchers assessed psychosocial stress using four simple questions about stress at work and home, financial stress, and major life events in the past year. They also asked about locus of control and depression symptoms (Lancet 2004;364:953-62).

MI patients reported higher prevalence rates of all four stress factors in the past 12 months. Of the MI patients still working, 23% reported several periods of work-related stress, compared with 18% of controls still working; 10% of working MI patients also reported permanent work-related stress, compared with 5% of working controls.

The population adjusted risk (PAR) among those working was 9%, said Annika Rosengren, M.D., of Sahlgrenska University Hospital/Ostra, Göteborg, Sweden, and her associates.

MI patients also reported more frequent periods of stress at home during the pre-

vious 12 months than did controls. Compared with controls, more MI patients experienced several periods of home-related stress, and more MI patients reported permanent home-related stress than did controls. The PAR for home-related stress was 8%, they said.

High locus of control demonstrated a protective factor, as the PAR for low locus of control was 16%, the researchers said.

For those who reported general stress—a combination of home- and work-related stress—the PAR was 12%. After adjustment for all factors, including financial stress, depression, and smoking, the PAR was 33%, Dr. Rosengren and her associates said.

For women, unlike in men, work stress did not seem to be associated with an increased risk of MI, but these data should be interpreted with caution as several subgroup analyses were performed, they said. Women and men were similar in all other effects.

Stress was more common among MI patients than controls in all geographic regions, even though the prevalence of moderate or severe general stress ranged from 8% among Chinese controls to 35% in North American controls.

"If this effect is truly causal, the importance of psychosocial factors is much more important than commonly recognized, and might contribute to a substantial proportion of acute myocardial infarction," the investigators concluded.

In a related editorial, Majid Ezzati of the Harvard School of Public Health, Boston, said, "The major step taken by INTERHEART is to confirm the similarly large role of multiple risks across populations." He added that the study "strengthens the

broad conclusions that adverse and positive psychosocial factors are important determinants of physical health, irrespective of the sociocultural context" (Lancet 2004;364:912-4).

In a second, related study, the researchers enrolled 12,461 patients within 24 hours of acute MI and 14,637 controls matched by age and sex.

Next, they determined the relationship between MI and nine easily measured protective or risk factors for a first MI: smoking, lipids, self-reported hypertension (HT), diabetes, obesity, diet, physical activity, alcohol consumption, and psychosocial factors.

'Eating fruit and vegetables, taking exercise, and avoiding smoking could lead to about 80% lower relative risk for myocardial infarction.'

These nine risk factors, according to Dr. Yusuf and his associates, "are associated with more than 90% of the risk of an acute myocardial infarction in this large, global, case-control study" (Lancet 2004; 364:937-52).

When broken out by sex, the population-adjusted risk (PAR) for the nine factors was 90% in men and 94% in women, according to the researchers. Overall, 76% of MI patients were men, as were 74% of controls. All of the risk factors were significantly associated with acute MI, except for alcohol, which had a weaker association.

Smoking and raised ApoB/ApoA1 ratio (top vs. lowest quintile) were the strongest risk factors for MI after multivariate analysis.

Smoking increased the PAR by 36% for current and former smokers, compared with those who had never smoked, Dr. Yusuf said, while raised blood apolipoproteins raised the PAR by 49% for the top four quintiles versus the lowest quintile.

The next strongest risk factors for MI were history of hypertension, which added an 18% PAR, and diabetes, which added an additional PAR of 10%. The next riskiest factor was abdominal obesity, with a PAR of 20% for the top two tertiles versus the lowest tertile, followed by

psychosocial factors, with a PAR of 32.5%.

Failing to consume fruit and vegetables every day was associated with a PAR of 14%, regular moderate alcohol consumption was linked to a protective effect of 7% in the PAR, and regular physical activity had a protective effect on PAR of 12%.

"One of the most important risk factors for acute myocardial infarction in our study was smoking, which accounts for about 36% of the PAR of acute myocardial infarction worldwide (and about 44% in men). Regular consumption of fruits and vegetables was associated with a 30% relative risk reduction," Dr. Yusuf and his associates said.

"Thus, eating fruit and vegetables, taking exercise, and avoiding smoking could lead to about 80% lower relative risk for myocardial infarction," the researchers added.

The researchers noticed a "clear, significant, and consistent excess risk" of acute MI in most regions of the world and in every ethnic group for most of these risk factors, with the exceptions of alcohol consumption, exercise, and diet.

Among all regions, the nine risk factors accounted for between three-quarters and nearly all of the PAR for acute MI. "However, raised lipids, smoking, and psychosocial factors were the most important risk factors in all regions of the world," Dr. Yusuf reported.

Although geographic priorities can differ by region because of differences in prevalence of risk factors such as diet, disease, and economic circumstances, the approaches to prevention can be based on similar principles throughout the world, the researchers said.

This study will probably inspire much more research in these areas and "contribute to an aura of legitimacy for behavioral research studies" and "make it easier for future behavioral research to reach a wider medical audience," David S. Sheps, M.D., of the University of Florida, Gainesville, and his associates said in an accompanying editorial (Psychosomatic Medicine 2004;66:797-8). ■

Chinese Green Tea Appears to Lower Cholesterol and Blood Pressure

ORLANDO, FLA. — Chinese green tea has beneficial blood pressure-lowering and antihypercholesterolemic effects, Teresa Tricia Bautista, M.D., reported at Wonca 2004, the conference of the World Organization of Family Doctors.

Japanese green tea has also been reported to be effective in lowering serum cholesterol in a number of studies. However, Japanese green tea is three to five times more expensive than green tea from China. That cost difference can be significant, especially for patients in underdeveloped countries who can't afford statin therapy or antihypertensive agents and are looking for an alternative, said Dr. Bautista of University of Santo

Tomas Hospital, Manila, the Philippines.

She presented a pilot study in which 15 hypercholesterolemic patients who weren't regular tea drinkers were asked to drink a cup of Chinese green tea prepared in a standardized fashion three times per day after every meal for 2 weeks.

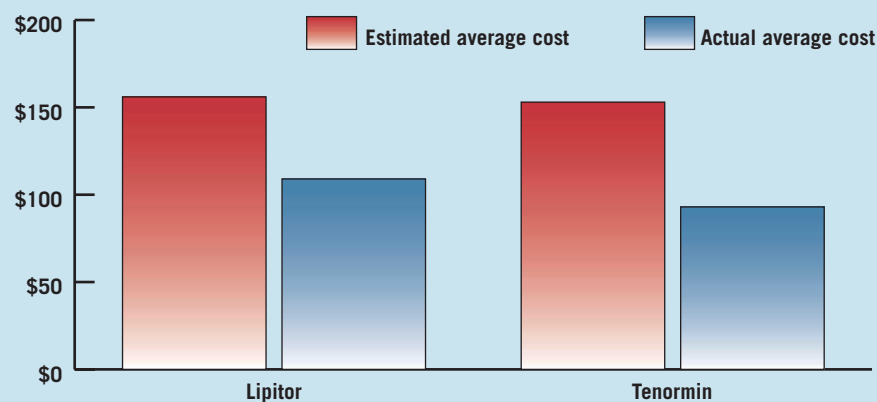
Ten of the patients completed the prospective study.

Mean serum total cholesterol dropped from 235 mg/dL at baseline to 187 mg/dL. Mean LDL fell from 144 to 137 mg/dL. Blood pressure declined from 130/87 mm Hg at baseline to 117/81 mm Hg after 1 week and 118/80 mm Hg after 2 weeks, Dr. Bautista said.

—Bruce Jancin

DATA WATCH

Public Overestimates Monthly Cost of Statins, β -Blockers



Notes: Based on a nationwide study of 2,366 adults conducted June 24-28, 2004. Numbers may not add to 100% because of rounding.

Sources: Harris Interactive, Wall Street Journal Online