

Reducing recurrent cardiac events by reducing stress

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Following the results of a study published in the *Archives of Internal Medicine* showing that cognitive behavioral therapy (CBT) produces a 41% reduction in fatal and non-fatal first recurrent CVD events, the European Society of Cardiology (ESC) believes stress management programs should be made more widely available across Europe for patients with coronary artery disease. Further studies, however, say ESC experts, will be needed to define the patient populations who will most benefit from behavioral interventions.

In the study, investigators led by Mats Gulliksson, from the Family Medicine and Clinical Epidemiology Section at Uppsala University Hospital (Sweden), randomly assigned 362 men and women who had been discharged from hospital after a [coronary heart disease](#) event to usual care and CBT (n=192), or usual care with no additional therapy (n=170). Usual care included medications to lower blood pressure and cholesterol and to prevent blood clots.

The CBT program, which was delivered in 20 two-hour sessions, was focused on reducing experience of daily stress, time urgency and hostility. The program included five specific goals of education, self-monitoring, skills training, cognitive restructuring, and spiritual development.

Results after a mean follow-up of 94 months showed that the group undergoing CBT had a lower rate of fatal and non-fatal first recurrent CVD events (HR 0.59, CI 0.42-0.83, P=0.002); fewer recurrent acute

myocardial infarctions (HR 0.55, CI 0.36-0.85, $P=.007$) and a non significant lowering of all-cause mortality (HR 0.72, CI 0.40-1.30, $P=.28$).

Commenting on the publication, ESC Spokesman Joep Perk, from Linneaus University (Kalmar, Sweden) says, “This study adds weight to the case that stress management programs are important, but leaves open questions about whether we can afford the approach, who are the best target populations and why the study didn’t affect mortality.”

The research, he adds, contains one major bias. “There is a risk that study patients may have been more adherent to drug therapy since they have more frequent contact with health care professionals than patients in the control group.”

ESC spokesperson EVA Prescott, from Bispebjerg University Hospital of Copenhagen (Denmark), welcomes the research as being one of the first studies looking at psychosocial interventions to demonstrate hard end points. “The study further confirms that we should probably be more active in addressing the psychosocial aspects of patients with cardiovascular disease. The strengths of the study are the long duration of follow-up and the fact that it enrolled consecutive patients. But it’s a single centre study and I’d like to see the results repeated in a multicenter study.”

ESC spokesperson Helmut Gohlke agrees. “The real question is whether the data are reproducible. The study was undertaken by an extremely dedicated team of health care professionals. The question is whether the approach would work in an average center and whether health care professionals could keep patients motivated to return for repeat sessions,” says Gohlke, from Bad Krozingen Heart Centre (Germany), adding that there may also be certain characteristics of the Swedish patient psyche that make them more likely to adhere to treatment.

One of the main differences in the current study, says Prescott, is that unlike previous studies interventions were offered to all patients who met the selection criteria, not just those found to be distressed. “In further studies I’d like to see whether the beneficial effect depended on the patient’s baseline psychological characteristics and whether everyone would derive benefit, or only those who have difficulty coping,” says Prescott, adding that in a world of finite health care resources such research would help target the intervention to those who most need it.

But with investigators calculating a number needed to treat (NNT) analysis of nine patients to prevent one recurrent CVD event, Gohlke believes that the approach would prove remarkably cost effective. “My approximate calculation - with an NNT of nine - is that it would cost around €18,000 to prevent one event, making the approach at least as cost effective as most interventions,” says Gohlke.

The actual mechanism behind the benefit delivered by CBT is open to debate. One possibility is that people who are less stressed are better able to take on board life style interventions such as giving up smoking, taking more physical activity and improving their diets. Additionally, stress is thought to exert detrimental effects on the cardiovascular system through activation of the catecholamine system. Catecholamines are known to raise heart rates. Indeed the SHIFT study presented at the ESC Congress in 2010 supported the concept that reduction of heart rate contributes significantly to the beneficial outcomes in patients with heart failure.

Additional guidelines on stress management, Perk added, will be included in the upcoming European Guidelines on CVD Prevention in clinical practice, due to be launched in Dublin in 2012 at the 5th Joint European Societies Taskforce on CVD Prevention.

More information: M Gulliksson, et al. Randomized Controlled Trial

of Cognitive Behavioral Therapy vs standard treatment to prevent recurrent cardiovascular events in patients with coronary heart disease. *Arch Intern Med* Jan 24 2011, 171: 134-140.

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