

**BEHAVIORAL CARDIOLOGY: Overview, Traditional Roles, and Future  
Directions**

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Over the past decade, there has been a large body of research that has convincingly established the significant contribution psychosocial factors play in the development and course of coronary artery disease. However, relatively few cardiologists emphasize the need to address issues of depression, anxiety, a sense of hopelessness, and social isolation in the treatment of their patients, and not many psychologists are intimately involved in the psychological and behavioral aspects of this area of medicine.

Patients recovering from cardiovascular disease enter rehabilitation programs seeking treatment and are aided in lowering the risk factors associated with their disease. They are helped to stop smoking, lower blood pressure, lower their lipid levels, control weight, manage diabetes, and to begin exercise programs. The Agency for Health Care Policy and Research of the US Department of Health and Human Services

describes cardiovascular disease as the leading cause of mortality in the United States, accounting for 50% of all deaths. Yearly, about 1.5 million Americans will experience a myocardial infarction (MI). 500,000 of these will be fatal, 5% of these episodes will be in people younger than 40 years old, and 45% will be in people under 65 years old. Almost 1 million survivors of MI are potential candidates for cardiac rehabilitation. The agency includes reduction of stress as part of the rehabilitation approach, but this is merely one of several psychosocial factors that psychologists are uniquely able to address in aiding cardiac patients.

I would like to highlight and briefly review some key psychosocial factors that have an impact on coronary artery disease (CAD), along with their implications for psychological interventions. I'll then share our treatment approach and clinical experience thus far in this vital and exciting area.

Chronic stress can lead to excessive sympathetic nervous system activation and exacerbation of CAD. It is therefore most common for psychologists to conduct stress management workshops with at-risk and already identified cardiac patients.

Chronic work-related stress has been studied in relation to coronary artery disease. Much focus has been on jobs with high work demand but with low decision-making latitude. Other studies

have looked at high work demand and perceived low rewards. Support for the link between job stress and coronary artery disease is growing.

CAD patients have been identified as having a rate of major depressive disorder that is from three to 10 times the rate of the general population. Depression is associated with an increased risk for cardiac events. It is estimated that 33% to 50% of MI patients show signs of depression prior to the cardiac event. The numbers increase post-MI. Depressed patients are least likely to motivate themselves for lifestyle change and will thus maintain a sedentary lifestyle along with social isolation.

Psychologist Nancy Frasure-Smith, in a 1999 study, found that depressed patients were three times more likely to die within a year of their MI than non-depressed patients, regardless of the severity of the initial heart disease. Longitudinal studies have shown that a high degree of hopelessness alone, while adjusted for other risk factors, was predictive of future cardiac incidents and higher rates of mortality. When combined with depression, the risk increases significantly.

Undiagnosed anxiety disorders in cardiac patients have recently been shown to be related to sudden cardiac death. A

similar connection has been noted with intense anger responses and sudden death.

In the 1950s the Type A personality was identified by Friedman and Rosenman with its now familiar characteristics of hostility, competitiveness, and overcommitment to work. Of these traits, hostility has emerged as a key interpersonal trait that is linked to CAD. Anger, cynicism, mistrust, and aggression have been studied and found to be associated with unhealthy lifestyle behaviors including smoking, alcohol abuse, and poor diet. In addition, hostility is related to a higher heart rate and blood pressure response to various stimuli as compared to a non-hostile population. In her prospective study of almost 13,000 men, published in 2000, psychologist Janice E. Williams found that those who initially scored high on the anger trait were three times more likely to have suffered heart attacks or sudden death over a 4-year period than those with low scores on that trait.

Social support, which includes marital status and access to tangible services and friends, has long been seen as instrumental to emotional and cardiac health. More recently, the concept of perceived emotional support has been subject to study. Low levels of perceived emotional support are now established as significantly increasing the risk for further

cardiac events. Studies by Nancy Frasure-Smith published in 1999 found that depressed patients, who reported feeling emotional support from friends and family, had the same death rates as non-depressed patients. Those depressed patients who felt that they did not get enough support had a much higher death rate.

With these identifiable psychosocial factors that significantly influence the etiology and course of CAD, it becomes imperative for psychologists to expand the stress-management approach of behavioral interventions and to address a far broader spectrum of intervention strategies targeted at a more defined population.

First and foremost, physicians need to be helped to understand their role in assessing psychosocial factors when taking patient histories. It has been my experience that many cardiologists also fail to assess psychological or psychosocial factors when referring patients to cardiac rehabilitation. The focus tends to be on exercise, diet, and lipid levels. Social isolation, for example, is rarely addressed. If the physician fails to take psychosocial issues seriously, he or she is unlikely to seek out an essential component of the patient's treatment. A mental status evaluation by a licensed psychologist should be a fundamental component of any cardiology assessment.

With an interdisciplinary approach to assessment, psychologists can screen patients in the cardiologist's office as part of the routine work-up so that interventions can be properly targeted. Depressed or anxious patients can get the psychotherapy and pharmacotherapy necessary for their recovery. Anger management could be offered to those in need of such help. All patients could be offered education and support to aid in their understanding and coping. I would include spouses and extended family members in this phase of intervention. Too many family members project their own fears and fantasies onto the patient with no readily available access to information or a setting in which to talk about their fears. Studies have shown that brief group therapy interventions have effectively helped patients change selected coronary prone behaviors. While it is noted that information regarding physiological and psychological aspects of CAD tend to be forgotten over time, the supportive aspects of group therapy seem to play the most important role.

In my experience, group therapy has been the one setting in which patients no longer feel alone with their fears. It is the one setting at which they can talk about their fear of death. I recall one woman telling the group how she got her affairs in order prior to bypass surgery, as she feared her potentially imminent death. Another group member responded that she feared

putting her affairs in order because to do so would indicate her acceptance that she was likely to die. This was her denial of her cardiac risk and of her own fears of death, but her refusal to put her affairs in order was also her will to fight for health and life.

We must take the research to a higher level so that we can identify the physiological mechanisms by which interventions might work, as well as the development of specifically targeted interventions and the means to evaluate efficacy. Psychosocial stressors tend to cluster. The anxious patient is often the avoidant patient and thus becomes the isolated individual. The angry patient is often the pessimistic and cynical individual who drinks too much and is non-compliant with medications. The risk factors for cardiac events become elevated beyond the previously identified risk factors for CAD.

It is clear that without incorporating psychological interventions cardiologists are not offering their patients the most complete care available. Comprehensive interdisciplinary care means having a psychologist as an indispensable part of the treatment team.

Our challenge is to venture forward, to become knowledgeable about behavioral cardiology, to be willing to leave the confines of our offices and to work with a cardiac

team, and, most of all, to experience the profound gratitude of cardiac patients as we help them come to terms with nothing less than their relationship to the rest of their lives.