The Role Of Psychological Factors In Adjusting To Cardiovascular Events

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Psychological factors play an important role in determining cardiac patients’ adjustment to and recovery from cardiovascular events (Kaoukis, 1999). They have been found to be better predictors of functional or psychosocial recovery than medical indices such as illness severity (e.g. extent of infarction). A significant number of cardiac patients experience severe psychological distress following their event, which in turn complicates their recovery, reduces their chances for survival, and increases their risk for future events. Psychological factors adversely affect the biological endpoints of CVD (cardiovascular disease) by directly and indirectly influencing pathophysiological processes that are associated with the development and progression of the disease. Consequently, they must be carefully assessed and addressed in cardiac rehabilitation programs.

Emotional Sequelae of Cardiovascular Events

After a cardiovascular event (CVE), patients are confronted with a number of challenges, ranging from the management of chest pain, to coping with imposed lifestyle changes and an uncertain future. The stress of these challenges result in a significant number of individuals experiencing marked psychological difficulties which interfere with their daily functioning. Up to 25% of patients have severe, often recurrent major depression following an MI, and nearly one third of these individuals remain depressed at one year post-event (Januzzi, Stern, Pasternak et al., 2000). An additional 17% to 27% of patients experience subclinical depression, and up to 42% of this group may progress into a major depression within one year. Anxiety and hostility are also quite prevalent. Up to one-third of cardiac patients experience severe anxiety for at least six months after their hospitalization. Almost 50% of inpatients with ACS (acute coronary syndrome) have anxiety problems. It is estimated that up to 25% of CAD (coronary artery disease) patients suffer from Panic Disorder. Many patients complain of increased irritability and tension for at least one year after their event.

Marital relationships can often become quite strained following a CVE. Between 30% and 50% of couples report a deterioration in their relationship and high levels of marital dissatisfaction. Younger couples and newer marriages appear most vulnerable. The causes of marital strain range from communication problems to family role changes and patients’ concerns about their spouse’s involvement in their treatment. Consequently, over 40% of the spouses of cardiac patients complain about high levels of stress, anxiety, and depression.

Impact of Psychological Factors

Depression, anxiety, stress, hostility, and social isolation have been linked to cardiac mortality and morbidity (Rozanski, Blumenthal, & Kaplan, 1999). Depression has been associated with roughly a 70% increase in the risk of cardiac death in CAD patients and has been estimated to have the same risk potential as having had a previous MI. It has also been associated with an increased risk of recurrent cardiac events, as well as more frequent and longer hospitalizations, and greater social impairment. Anxiety has been shown to triple the risk of all-cause mortality following MI and to almost double the risk
of re-infarction. It increases the risk of SCD in cardiac patients by a factor of six (Januzzi et al., 2000). Hostility has been shown to be predictive of recurrent cardiac events and the severity of cardiac ischemia in this population. Moreover, both depression and hostility have been linked to the risk of having a CVE in healthy populations followed prospectively. Deficient social and emotional supports have been associated with a 3-fold increase in the risk of cardiac death and recurrent non-fatal events in cardiac patients. Similarly, the presence of poor quality supports can hinder recovery. Marital stress and dissatisfaction, limited emotional sharing, and spousal conflict have all been associated with increased physical complaints and poorer health outcomes post event.

The impact of psychological adjustment factors on the biological endpoints of CVD consists of two pathways of influence. First, they directly affect physiological processes associated with the development and progression of CVD via their activation of the pituitary-adrenocortical, and sympathomedullary, systems (Musselman, Evans & Nemeroff, 1998). For example, anxiety, stress, and depression have been associated with decreased heart rate variability, elevated blood pressure and lipid levels, increased norepinephrine and cortisol release, platelet activation, and decreased ventricular stability. High levels of mental and social stress have been linked to myocardial ischemia and cardiac dysfunction (e.g. decreased ejection fraction). Anger responses have been associated with vasoconstriction in atherosclerotic, but not non-atherosclerotic, coronary artery segments, and with degree of atherosclerosis in cardiac patients. They have been linked to platelet aggregation and arterial calcification in healthy controls.

The second pathway is more indirect in terms of the impact on physiological processes, and involves psychological adjustment factors’ effects on cardiac patients’ compliance with healthy lifestyle regimens. Depression is one of the best predictors of poor adherence to necessary lifestyle changes in CAD patients. Depressed cardiac patients, in comparison to non-depressed patients, have been shown to have a 34% lower adherence rate to simple medication regimens. The main reasons for cardiac patients not following nutritional advice are related to emotional responses to dieting and social skill deficits (e.g. lack of assertiveness in social eating situations), and not to a lack of knowledge or interest in lifestyle change. In contrast, improving patients’ sense of well-being, self-efficacy, and social supports appear to increase adherence rates and promote the maintenance of healthy lifestyle changes.

**Strategies to Facilitate Adjustment**

It is important to evaluate the degree to which patients are at risk for adjustment problems by assessing them for factors that have been associated with a poor functional or psychosocial prognosis. Screening patients for anxiety and depression is necessary given the prevalence of these disorders in cardiac patients and their negative impact on health and rehabilitation outcomes. This would include assessing individuals’ vulnerability to developing these disorders by determining whether they have a personal or family history for these problems or exhibit subclinical features of them that do not abate over time. Early intervention by qualified mental health professionals is necessary and is often overlooked by medical and rehabilitation personnel.

It is also important to evaluate patients’ level of hostility, coping beliefs and personality style. As mentioned above, excessive hostility can have negative physical consequences and can add to patients’ interpersonal stress levels, as well as complicate interactions with rehabilitation personnel. Optimism, high self-efficacy and a sense of
personal control, have been linked to more rapid physical recovery and return to daily routines, better adherence to lifestyle recommendations, and greater life satisfaction, in cardiac patients. In contrast, individuals with neurotic somatizing or passive-dependent personality styles, tend to have a more protracted and complicated recovery and poorer health outcomes.

Persistent chest pain and sleep disturbances can complicate individuals’ physical and psychosocial recovery. They can result in somatic preoccupation, frequent medical visits, increased anxiety, and an avoidance of physical activity. Sleep disturbances may be indicative of an underlying depression. Consequently, patients’ sleep problems and chest pain must be addressed early on in the rehabilitation process. This can include both psychologic and pharmacologic interventions. Providing patients with information on the differences between cardiac and non-cardiac chest pain, and training them in relaxation procedures and sleep hygiene strategies, can be effective initial treatments for these problems.

The extent and quality of CAD patients’ social supports should be ascertained because they have been associated with physical work capacity status, emotional adjustment, and adherence to biological risk-reduction behaviours. Patients’ spouses or significant others should be included in treatment planning as much as possible. It is important to address family members’ unrealistic fears about, and understanding of, the patient’s condition, as well as encourage their support of the patient’s efforts at lifestyle change. In addition, informational support by medical and rehabilitation personnel can promote feelings of hope and control, and consequently, better adjustment to a CVE. Informational support can consist of providing patients with health bulletins or videos, health education classes, and recommending pre-screened self-help books.

Including psychological interventions in the rehabilitation process can be useful in improving patients’ biological and psychosocial outcomes. Cognitive behaviour therapy (CBT) techniques can be effective in treating many of the adjustment risk factors for CAD patients. Several meta-analyses have shown CBT to be at least as effective as pharmacological interventions on a short-term basis, and superior to drug therapy when follow-up data is considered, in the treatment of mild to moderate depression, panic disorder, and generalized anxiety disorder. Similar findings have been reported for the treatment of insomnia, and CBT procedures have been developed for non-cardiac chest pain. The CBT techniques improve patients’ self-efficacy and problem-solving skills, as well as alleviate symptoms, and do not interfere with the complex drug regimens of many cardiac patients.

Two recent meta-analyses report that when psychological interventions are added to standard cardiac rehabilitation or care programs (so-called comprehensive cardiovascular rehabilitation), patients’ mortality and morbidity rates, decrease (Dusseldorp, van Elderan, Maes, et al., 1999; Linden, Stossel & Maurice, 1996). More precisely, the comprehensive rehabilitation programs, in comparison to standard care, show an additional 34% to 41% reduction in the risk of cardiac death and an additional 29% to 46% decrease in the risk of recurrent cardiac events. They also result in greater improvements in patients’ physiological status (e.g. blood pressure and lipid levels), fewer re-hospitalizations, less use of medication, faster return to work, and better adherence to lifestyle changes. Just adding a stress management group to standard care can potentially reduce biological endpoints such as all-cause mortality, recurrent MI, and revascularization, by over 70% (Blumenthal, Jiang, Babyak et al., 1997). More intense psychological interventions along with severe dietary restrictions,
may result in quite dramatic changes in cardiovascular status (Ornish, Scherwitz, Billings et al., 1998). Moreover, the American Psychological Association has demonstrated that for every dollar spent on these comprehensive programs, health care plans save five dollars in future costs.

In summary, there is sufficient research to show that psychological assessments and interventions should be included in comprehensive cardiac rehabilitation programs. This is highlighted by the CACR’s most recent guidelines for standards of practice indicating the need for psychological interventions at specific points in the rehabilitation process. It is also important to inform patients about the role of psychological factors in the adjustment process and the availability of effective psychological treatments.

References


