

**APPLICATION OF COGNITIVE-BEHAVIORAL THERAPY FOR  
REDUCING ANXIETY IN CARDIAC PATIENTS**

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**Introduction**

The empirical tenets of the application of cognitive-behavioral therapy in treating psychological disorders date as far back as early 20<sup>th</sup> century. The Darwinian approach to the continuity between humans and animals enables the use of animal models of behavior to study the development and progress of psychological disorders.<sup>1</sup> Lange's theory of the relatively independent triple-response system (behavioral, cognitive/emotional, physiological) lay the foundation for introduction of cognitive concepts into the behavioral approach.<sup>2</sup> Studies conducted by the American Association have demonstrated the effectiveness of cognitive-behavioral treatments in reducing anxiety; most patients, especially those who strictly follow the treatment program, showed significant improvements within 8-10 sessions [3].

Cardiovascular disease (CVD) is the leading cause of death and disability in the world. CVD, especially coronary heart disease cannot be completely cured. CVD has a progressive and debilitating course, which is affected by multiple internal and external factors. CVD patients are prone to anxiety, which may profoundly affect their quality of life [5].

Today, cardiac rehabilitation constitutes an important component of clinical care of CVD patients. Rehabilitation should focus not only on the physical, but also on psychological aspects of a patient's condition. This article addresses the

application of cognitive-behavioral treatments in reducing anxiety in CVD patients.

**Etiology of anxiety in CVD patients**

Emotional crises, not excluding anxiety and major depression are among the most important challenges of care for CVD patients in coronary care units (CCU). Anxiety can delay the recuperation of cardiac patients.<sup>7</sup> Anxiety can both contribute to and result from CVD.<sup>8</sup> Studies have shown the treatment setting to be an important cause of anxiety in patients.<sup>9</sup> Besides disease, hospitalization, especially in the CCU can be a stressful and frightening experience. The patients find themselves in an unfamiliar environment surrounded by machines with flashing lights and strange sounds; they undergo painful procedures and occasionally feel that their life is threatened.<sup>1</sup> Daily routines and meals are strange; the patients feel detached from their friends and loved ones and have difficulty sleeping. Most types of anxiety result from thoughts of death or symptoms which prelude death.<sup>10</sup> Dyspnea and insufficient ventilation in patients with cardiac failure is associated with anxiety and agitation; these symptoms are exacerbated overnight. Emotional tensions stimulate the sympathetic nervous system, resulting in vascular constriction, elevation of blood pressure and heart rate, and increased cardiac load. Cardiac load decreases with anxiety relief.<sup>1</sup>

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Cognitive-behavioral treatments entail the characterization of the patients' problems and development of hypotheses on their etiology and ways of approaching them.<sup>11</sup> The main cognitive-behavioral techniques are as follows:

#### **Detecting negative thoughts**

Detecting negative thoughts is an important technique in cognitive-behavioral treatment. Some patients can readily detect their negative thoughts at the start of treatment. Others need training to enable them to detect their anxiety-related thoughts. The reasons why some patients have difficulty detecting automatic thoughts are several-fold:

- These are short thoughts which usually follow a stressful episode
- They usually occur as a keyword or a mental image which are hard to transfix and recall
- They do not occur in a rational step-by-step problem solving sequence
- They occur automatically
- They distort realities more than other types of thought<sup>12</sup>

#### **Information**

The patients should be informed of the nature of anxiety at the start of treatment. Such information must include some description of anxiety symptoms, its origins and possible course, and assurance that the immediate autonomic changes associated with anxiety (including elevation of heart rate) are not dangerous, and that the panoply of seemingly unrelated symptoms in anxiety (e.g. sleeplessness, severe fatigue, palpitation) can be overcome. The patients should be assisted to understand the cognitive-behavioral model of anxiety and avoid any misinterpretation as to its nature.<sup>1</sup>

#### **Activity program**

The patients are asked to grade their hourly routines according to their feelings of anxiety, fatigue, pleasure, and being in command (on a 0-100 scale). Activity programs may be used in different ways. For example, for patients who feel pressured by time shortage, the activity

program can be so adjusted as to engage the patient in a single task at one time. Such activities tend to promote a feeling of worth and being in control of the surrounding environment.<sup>1</sup>

#### **Relaxation therapy**

Relaxation techniques can be very helpful in overcoming mental disturbances. Two types of relaxation are particularly effective in dealing with anxiety. Gradual muscular relaxation is a method whereby the patients are instructed to focus their attention on a group of muscles, intermittently contracting and relaxing them.<sup>13</sup>

Benson developed a new method of anxiety relief using relaxation. His method involved muscle relaxation in a quiet environment while maintaining an open mind and listening to a repeating musical theme, as practiced in meditation.<sup>14</sup> Meditation is effective in reducing anxiety, lowering blood pressure and even resolving certain phobias.<sup>15</sup>

#### **Self-efficacy and recovery from heart attack**

In 1992, Ewart and colleagues studied the relationship between physical self-efficacy and recovery from heart attack. According to the self-efficacy theory, the ability of patients surviving heart attacks should be raised through identifying and relieving fears. Self-efficacy is a predictor of an individual's ability to endure extreme physical pressure and those at greater exposure to pressure require a higher level of self-efficacy to survive.<sup>16,17</sup>

#### **Control and recovery from myocardial infarction**

Another area of interest is the effect of control on health-related behaviors in patients who have recently suffered myocardial infarction.

Cromwell and colleagues studied the role of control in recovery from myocardial infarction. They found patients with internal locus of control to be less anxious, more cooperative, and less depressed during their stay at the CCUs. However, patients with external locus of control were found to have higher body temperature and worse prognosis.

Patients with internal locus of control displayed a greater will to live and participated more actively in the treatment process. The study showed the locus of control to be a decisive determinant of the course of recovery from heart disease, especially myocardial infarction.<sup>18,19</sup>

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