



Psychotherapeutic Interventions in Breast Cancer and Chronic Illnesses

Introduction

A diagnosis of cancer or other chronic medical conditions is usually accompanied by change in one or more areas: emotional, physical, family and social life, lifestyle, and financial. Many of the changes create additional stress over and above the medical concerns and do not always resolve with the passage of time. For some patients, the experience of a chronic medical condition is permanently life-altering—for better and for worse.

While accessing the best in available medical care is routine for most people, it is less likely that they will look for resources to help with some of the stresses that are not addressed by their physicians. The services of psychiatry and psychology are often recommended only if the patient appears to be experiencing significant adverse effects, usually symptoms of depression or anxiety that interfere with daily function. For patients who experience the “common” stresses that occur with medical conditions, support groups are often the main resource available in the community.

One focus of health psychology research over the past fifteen years has been the experience of chronic illness from the patient’s perspective; this research includes both identifying specific factors that enhance well-being or create stress as well patient interventions that increase positive experiences and decrease negative ones. Examples of such research areas include:

- Quality of life issues such as emotional distress, social support, and the role of optimism/pessimism in adjustment
- Issues related to treatment adherence
- Management of treatment-related symptoms such as nausea and pain
- Physiological changes that may affect medical outcome as a result of psychologically-based treatment

This article presents an overview of one particular research-based approach, Cognitive-Behavioral Stress

Management (CBSM) developed by Michael Antoni, PhD and colleagues at the University of Miami, Florida. The CBSM protocol has been studied with patients undergoing treatment for breast cancer, prostate cancer, and HIV/AIDS. This intervention strategy includes both cognitive-behavioral therapy (CBT) and relaxation techniques common to many intervention approaches, especially as both have significant supporting research and are easily learned by participants. The CBSM protocol is offered in a structured group format, which can make it cost-effective. There is evidence that this approach may improve quality of life as well as affect markers of disease progression. Most importantly, the protocol can be of value to any patient who is interested. Rather than addressing psychological pathology, it is designed to increase positive experience, develop effective coping skills and decrease emotional and physical manifestations of stress.

Protocol Overview

In general, the CBSM approach has three facets:

1. Employing CBT to help change negative or anxious thought patterns as well as developing more effective coping skills
2. Learning specific relaxation techniques with a goal of selecting at least one for daily practice
3. Addressing specific areas of concern that are frequently identified by medical patients

In addition, the group format provides emotional and social support for the participants.

A basic tenet of CBT, one of the most widely researched psychotherapeutic approaches, is that our beliefs and thoughts influence mood states. Thoughts, not just actual events, can create experiences of emotional and physical stress, and these experiences can have a significant effect on well-being. A common example of this might be the thought “I am afraid I

will get cancer again;” repeated over and over, it can contribute to the development of an anxious mood state as well as to tension and fatigue. Similarly, the repetitive thought “my life is changed for the worse” might lead to depressive affect and a tendency to give up efforts to enjoy life. Although these thoughts are not necessarily erroneous, the goal of CBT is to help a person become aware of their beliefs and thoughts and to reframe them in a neutral or more positive—but accurate—way. This is referred to as cognitive restructuring. In effect, the theory is that if we can change our beliefs or thoughts about a situation, we can feel and act differently even if the situation does not actually change. Changing a thought pattern decreases the amount of stress that a person experiences—an important goal in adjusting to and managing chronic illness.

Developing coping responses that effectively address a situation is another aspect of the CBSM protocol. When a person has a chronic medical condition, there are both emotional and practical concerns that arise. A person who is diagnosed with cancer, for instance, may have anxiety about treatment and recurrence, feel overwhelmed with the details of the diagnosis and treatment choices, experience physical discomfort from treatment, and worry whether there will be an adverse financial impact on the family. As patients learn new coping strategies, it becomes easier to delineate which aspects of situations are “controllable” and lend themselves to direct and active problem-focused coping. They also learn to identify and manage situations that do not respond to active problem-solving strategies, such as emotional reactions, by employing activities and strategies that soothe, calm and distract (emotion-focused coping). These distinctions may seem simplistic in concept, but can be difficult in practice when a patient is engulfed in the many demands engendered by medical treatment and its aftermath.

The relaxation component aims to reduce both the emotional and physical correlates of stress. The goal is to develop a daily practice that will be maintained easily. Multiple techniques are introduced during group sessions and participants are encouraged to practice each technique at home during the week. Relaxation strategies that are introduced include deep breathing, progressive muscle relaxation, guided imagery, autogenic training and meditation. The variety of techniques allows each participant to find a favorite.

Integrated within the framework of the protocol are multiple topics that address some of the more

common stressors that medical patients experience: anger, communication difficulties (assertiveness training), and managing or building social support. As these areas are explored, participants bring their own experiences into the group as they choose, and use the newly acquired CBT and coping skills to address particular experiences. The aim here is to build a sense of mastery of the techniques as well to increase a sense of sharing and support among participants.

The CBSM groups are generally 10 weeks long and facilitated by two psychologists or psychotherapists who are trained in the specifics of the protocol. Manuals are available for both facilitators and group members. As the group follows a specific structure, participants are usually not added once a group starts.

Evidence for CBSM Effectiveness

More than fifteen journal publications have appeared in the past eight years involving the CBSM protocol for breast cancer, prostate cancer, and HIV/AIDS. As an illustration of research pathways and findings, this review of evidence will focus on one particular CBSM protocol: B-SMART (Breast Cancer Stress Management and Relaxation Training).¹

Development of the B-Smart Protocol

As described by Antoni, initial research focused on identifying the major concerns that women with breast cancer have within one year of diagnosis and treatment. To do this, the Profile of Concerns about Breast Cancer (PCBC), a self-report instrument, was developed and completed by over 200 patients. Concerns reported as high among all ages of patients included: recurrence (most highly rated), being sick or damaged by adjuvant therapy, not seeing their children grow, premature death, and life with their partner cut short. Moderate concerns included loss of sexual desirability and sexual feelings. Patients were least concerned about adverse reactions from others. Three broad areas of concern emerged from these findings:

1. Life and pain
2. Sexuality
3. Rejection

Antoni also identified factors that increase patients’ vulnerability to emotional distress. These included level of optimism, social support and body image. The B-SMART intervention was created to address these issues through the development of specific skills that addressed both the psychological and physical stresses that patients might experience.²

Psychological Effects

Evaluating the psychological effects of the B-SMART intervention has been viewed from two perspectives: whether there is an increase in positive affect or experience and/or a decrease in negative affect or adverse experience. A frequent finding for breast cancer patients has been an increase in the ability to find benefit from the cancer experience. Examples of benefits reported by participants included an enhanced sense of purpose and meaning, better family relationships and altered life priorities. Benefit finding may have an important effect on long-term quality of life. A separate study by Carver and Antoni found that early-stage breast cancer patients who reported finding benefit in the cancer experience within the first year after diagnosis also reported significantly lower distress and depression in follow-up four to seven years later.³⁻⁷

Optimism, defined as a positive expectation regarding the future, is another factor that has been studied. One of the findings reported is that the B-SMART intervention resulted in increased optimism about future well-being, especially for women who reported lower levels of optimism regarding their disease at the beginning of the intervention. Another study, one of the largest studies of the B-SMART protocol (199 women) reported an even broader scope of positive psychological outcomes, many of which were sustained for at least nine months after the intervention. Included among these effects were:

1. Increased positive state of mind (such as the ability to focus attention, and be productive)
2. Increased positive emotional experience (affection, contentment, vigor, joy)
3. Increased positive lifestyle change (healthier diet, regular exercise)

The reduction of potential negative effects of the breast cancer experience is also a target of the intervention. In a study of 100 women, about one-third of participants reported a moderate level of depression prior to the intervention. This level, considered clinically significant, was reduced at the conclusion of the group. Other types of negative effects include anxiety symptoms and cancer-specific thought intrusions. Reductions in both were found after the intervention and again at one-year follow-up.^{3,6,8}

Physiological Effects

Two of the studies previously mentioned also evaluated potential physiological effects of the CBSM intervention. One study reported that intervention

participants were found to have lower serum cortisol levels than control subjects. Further, this reduction was partly explained by the increase in benefit finding by the participants. In the second study, which examined both benefit finding and immune function (measured by in vitro lymphocyte proliferative response to anti CD3), women in the intervention had significant increases in their immune response over a subsequent three month period as compared to the control group in which proliferative response decreased slightly.^{4,5}

Limitations of the Studies

As in most research, methodological limitations exist which may affect the generalizability of the results. Specifically, many of the samples studied are small and are comprised of mostly Caucasian, well-educated women. Participants were primarily women with early to mid-stage diagnoses (I-III). Participation in the intervention was limited to women who could commit to the 10-week schedule. Most of the consistent findings are related to improvement in psychological factors. While changes in some physiological measures have been demonstrated, causality is not determined and no evidence for physical health changes is established. Research continues, not only on the B-SMART protocol, but on the others as well.¹

Discussion

In this brief review, elements of an intervention program have been described and supported with a selection of the recent research. The theoretical model that underlies the CBSM intervention is described by Antoni: “the B-SMART intervention immediately addresses a series of intervention targets, which in turn can change quality-of-life variables, positive and negative health behaviors, immune status, and levels of reproductive hormones. These changes are in turn hypothesized to predict longer term changes in physical health.” Support for the theoretical model is accumulating.¹

Both clinical and research emphasis on psychosocial interventions for health concerns is increasing. Research on similar theoretical models and other chronic medical conditions continues on many fronts. In the many other models that exist, CBT is often found as a major component as well as emphasis on stress management skills. Current medical conditions targeted include diabetes, cardiovascular disease and chronic fatigue syndrome. A visit to the Amazon website or a large bookstore reveals that many patient-oriented workbooks for cancer, chronic pain, fibromyalgia and other conditions abound.

This is evidence of the growing patient audience for psychological interventions that address the stresses related to chronic illness and disease.⁹⁻¹⁰

On a personal note, as facilitators of some of the early B-SMART research groups, as well as later groups in the general community, we can attest to what has impressed us most: the reactions of the participants we have worked with. They thrive on the information, grow in self-confidence, are thrilled with their ability to relax at will as well as sleep better, support each other with great empathy, and often interrupt the groups with good humor and laughter. The participants' commitment to the group—and appreciation for the experience—is as important as the research findings that emerge. Indeed, without their commitment, there would be no intervention to study.

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Suggested Readings

1. Antoni MH. Stress management intervention for women with breast cancer: therapist's manual. Washington DC: American Psychological Association; 2003.
2. Antoni MH. Stress management intervention for women with breast cancer: participants' manual. Washington DC: American Psychological Association; 2003.

CME Questions 3a-e

Please provide the best answer for the following:

- 3a. Cognitive restructuring involves:
- Changing only erroneous beliefs
 - Making all thoughts positive ones
 - Changing negative thoughts to neutral or positive ones
 - Ignoring any non-productive thoughts
- 3b. A basic tenet of CBT is that:
- Thoughts must be linked to specific behavior patterns for change to occur
 - Thoughts alone can create experiences of emotional and physical stress
 - Thoughts alone can never be the source of physical stress
 - Thoughts are only influential when they are negative in nature
- 3c. Finding benefit in the breast cancer experience during the first year has been found to:
- Predict lower distress and depression 4 to 7 years later
 - Predict longer lifespan
 - Predict willingness to volunteer with other breast cancer patients
 - Occur only in individual therapy
- 3d. In the B-SMART study which found that participants had lowered serum cortisol levels as compared to control subjects, this result was linked to:
- Relaxation techniques that were practiced daily
 - Lifestyle changes
 - Increases in benefit finding
 - Stage of cancer at diagnosis
- 3e. The aim of the CBSM group intervention is to:
- Identify and treat patients with severe psychological reactions to their illness
 - Encourage patients to eliminate all stress from their lives through relaxation
 - Provide an alternative to medical treatment
 - Provide the opportunity to increase positive experience, develop effective coping skills, and decrease emotional and physical manifestations of stress for all participants

clinicopathological conference



Series Editor: Michael Jakoby, MD, MA; Case Author: James Kumar, MD, MS

A 66-Year-Old Male with Lower Extremity Swelling and Dyspnea

Introduction

We discuss a patient with lower extremity swelling and dyspnea as the third published case in the monthly Clinicopathological Conference conducted by the University of Illinois at Urbana-Champaign. A clinical faculty member is presented with a case of which he/she has no prior knowledge and then presents the clinical reasoning involved in reaching a final diagnosis. This case was discussed in October 2007.

Discussants

Cardiology: Ken Bodine, MD
Pathology: Ikechukwu Uzoaru, MD
Pulmonary: Curtis Krock, MD
Radiology: Juan Jimenez, MD

Case Presentation

A 66-year-old male Caucasian presented to the cardiology clinic with complaints of gradually worsening shortness of breath and lower extremity swelling of two months' duration. He became short of breath after walking half a block or less. Previously, he could walk much farther and play 18 holes of golf without dyspnea. The patient denied experiencing chest pain, cough, wheezing, or orthopnea. Painless and bilateral lower extremity swelling also occurred simultaneously with the onset of shortness of breath. Six months before the onset of symptoms, the patient experienced modest right lower extremity swelling that resolved spontaneously.

On review of systems, the patient reported gaining "a few pounds" coincident with shortness of breath and lower extremity swelling. He also reported intermittent "loose stools" for six months, but a previous gastrointestinal workup was indicated by the patient to be unremarkable. Additionally, the patient was bothered by vague and progressive fatigue for the past six months. The remainder of the review of systems was noncontributory.

Past medical history included hypertension, benign prostatic hypertrophy, dyslipidemia, Wegener's granulomatosis (WG) (two years), irritable bowel syndrome (IBS), and gastroesophageal reflux. There was no family history of coronary artery disease. The patient's mother died from an unspecified lung cancer. The patient was a farmer who was married and lived with his spouse. He denied consumption of alcohol and was a former smoker who gave up cigarettes over 30 years ago.

The patient's medications included methotrexate, aspirin, folic acid, furosemide, lisinopril, simvastatin, ranitidine, and supplemental calcium with vitamin D. He indicated full compliance with prescribed medications and reported an allergy to tetracycline.

On examination, blood pressure was 126/84, pulse 60, respirations 16, and room air oxygen saturation 94% by pulse oximetry. Patient's BMI was recorded at 27. Conjunctivae and pupils were normal. Extraocular movements were intact. Nasopharynx was unremarkable. Oropharynx was moist and without erythema or exudates. Neck examination showed pulsatile jugular-venous distension at 8–10 cm but no lymphadenopathy, and no carotid bruits were audible. A 2-3/6 systolic murmur was best heard over the left sternal border, and S2 was widely split. Lungs were clear to auscultation bilaterally, and no wheezing was noted. Abdomen was soft and obese, with an enlarged liver span noted. The spleen was also palpable below the left costal margin. The hepatojugular reflex was positive. Lower extremities were notable for 2+ pitting edema bilaterally and to the mid-shins.

Discussion

Dr. Bodine: The differential diagnosis based on the information provided can be approached by considering the causes of this patient's two month history of progressive exertional dyspnea. Dyspnea may be caused