

A Cognitive Approach to Cancer Treatment



A cancer diagnosis is one of the most terrifying in medicine. The fear and anxiety most patients experience at diagnosis is expected, but for many, those debilitating emotions never fade. Instead of the hope and confidence needed for a strong immune response, despair can persist and hamper treatment. Too often, the emotional burdens accompanying cancer lead to early withdrawal from chemotherapy, for example, and poor outcomes. However, a series of clinical studies suggest psychotherapy can counter those effects, with powerful implications for patients. Applying proven mental health approaches, such as cognitive behavioral therapy, interventions are now helping patients fight back against their fears and their disease.

Mental Health is Not Optional for Healing

After a cancer diagnosis, patients face so many changes that it can be difficult to tease the elements apart. For many physicians, it can seem impossible to determine if emotional responses are side effects of cancer—or its treatments—or if a patient is truly experiencing depression.

Despite increasing evidence about its impact on health and recovery, psychotherapy is still not part of standard care for cancer patients, or survivors. And while integrative cancer care is expanding in the United States, depression among cancer patients is still under-diagnosed. Even when diagnosed, depression is often under-treated. Few medical personnel are well trained to recognize the symptoms, and treatments—including medication—too often fall short.¹

Depression is not the only challenge. Pain and fatigue are also devastating for those who endure and survive cancer treatment. Pain is well recognized, but still not universally treated and fatigue is even less frequently addressed. Fatigue can hamper every aspect of cancer treatment and quality of life, yet one study found merely 5 percent of cases are treated, compared to 95 percent for pain.²

Research reported in 2010 reveals that these symptoms relate to hormonal changes cancer patients experience as their disease progresses. Ohio State University psychologist Lisa Thornton, PhD, and colleagues found neuroendocrine-immune models may explain why such effects are so common.³ Controlling for disease and demographic variables, the researchers found neuroendocrine

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changes—shifts in levels of hormones triggered by neurological activity—predicted pain, depression, and fatigue, suggesting stress hormones as a common mechanism. Encouragingly, an earlier study from the investigators suggested a solution: psychological intervention can reduce depressive symptoms, improve immunity, and reduce inflammation, which is thought to be key to cancer onset and progression.⁴

Burdens of the Mind

When it strikes, depression may first be recognized with a slow but continuing lowering of mood or disinterest in everyday activities. When such feelings are happening more days than not, a patient may start to meet the criteria for major depressive disorder as classified in the standard of guidance for mental health, the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-V)*.

Among cancer patients, current research suggests major depressive disorder is one of the most common psychiatric disorders, with prevalence rates ranging from 10 percent to as much as 50 percent.⁵ The impact of major depressive disorder can be extensive, including such changes as increased anxiety and substance use, harmed personal relationships, poorer self-care, fewer physical activities, sexual side effects, and poor sleep, among others.⁶

Regardless of specific diagnosis, what's most important is recognizing the presence of mental illness. Physicians may not be

aware of the impact depression has on cancer treatment outcomes, beyond quality of life. Treating mental health is not just about making people feel more positive, but limiting the side effects of chemotherapy, reducing pain, lessening fatigue, and in some studies, reducing the risk of cancer recurrence.⁷ More, depression is a risk factor for premature mortality, with evidence established in a 2008 clinical evaluation of breast cancer patients.⁸ Treating mental health is not just about quality of life, but quality of care.

Treatment of depression can be hindered by how the disease may compound with existing, practical challenges of cancer treatment. Cancer patients are already burdened by multiple appointments. When people have a medical illness, such as cancer, therapy is not a priority even when they have severe mental health symptoms. Many patients are focused on “Let’s treat the disease and then I’ll worry about how I feel later,” unaware that how they feel emotionally and how they cope with cancer are intimately related. Approximately 70 percent of depressed cancer patients have a range of worries beyond the disease, including:⁹

- Anxieties regarding relationships with friends (77 percent)
- Concerns about the well-being of family members (74 percent)
- Stress related to finances (63 percent).

With the high cost of treatment and the lost time at work, depression can add other economic costs to patients and to the healthcare system. For example, patients with depression have more appointments, spend more time with physicians, and have more hospital readmissions, resulting in higher healthcare costs.¹⁰

Over time, the risks increase beyond impact on treatment, and can lead to suicide—even long after cancer is in remission—for some cancer survivors.¹¹

Cognitive Behavioral Therapy as a Cancer Treatment Solution

Cognitive behavioral therapy is the treatment of choice for depression, evidenced by hundreds of trials and multiple meta-analyses.¹² Developed by Aaron Beck, MD, in the 1960s, cognitive behavioral therapy focuses on improving thoughts and beliefs as a way to change moods and behaviors, with patients working on techniques for healthier mental habits and coping skills. Problem solving improves, and patients learn how to identify negative “automatic” thoughts and how to stop them, shattering negative self beliefs. Skills improve over time, so that eventually when stressful situations arise—or any event that might typically trigger a depressive episode—the patient can manage the crisis and move past it.

There have been few cognitive-behavioral therapy studies with cancer patients that included cases with major depressive disorder. Some have studied patients with depressive symptoms, with people reporting they feel “down,” yet did not confirm the presence of clinical depression.

However, studies with cancer patients have found that mental health and wellness (overall well-being) are related; this suggests that cognitive behavioral therapy could affect both. For example, cognitive behavioral therapy reduces depressive symptoms and improves a person’s health and well-being. This connection between mental health and wellness and well-being has also been observed in patients with other illnesses (especially chronic disease).

Stronger Physical Health Arises from Strong Mental Health

One landmark study conducted here at The Ohio State University Comprehensive Cancer Center through the College of Public Health established a solid baseline for understanding how mental stress impacts immunity. Led by Barbara L. Andersen, PhD, the 2004 clinical trial looked beyond patient-reported symptoms to actual biomarkers and immunity measures. The findings were clear: immunity improves as stress goes down.¹³

Andersen and colleagues found that patients receiving a psychological intervention showed significant improvements in anxiety, perceived social support, better dietary habits, and even a reduction in smoking. As important, patients receiving the intervention were also better able to maintain their chemotherapy regimens in comparison to a control group.

Social support can be critical for well-being, as cognitive behavioral therapy predicts that increased contact with reinforcers for healthy behavior (or reduced contact with reinforcers for depressed behavior) decreases depressed behavior and increases healthy behavior.¹⁴

In the study, the cognitive behavioral therapy intervention involved one session per week for four months and included strategies for reducing stress, improving mood, establishing good health behaviors, and adhering to cancer treatment. The healthy behaviors were particularly impressive. Compared to the control population, patients undergoing psychotherapy avoided fats, increased physical activity, and decreased the number of cigarettes smoked each day (the opposite of the smoking trend for control patients).

A 2009 Ohio State University study led by Thornton and colleagues built on those findings by observing how psychological intervention directly reduces inflammation.⁴ Working with newly diagnosed cancer patients, the researchers found cognitive behavioral therapy alleviated depression, pain, and fatigue while simultaneously lowering overall white blood cell counts and improving neutrophil levels and T-cell ratios.⁴

Changing Behaviors, Changing Outcomes

Cognitive behavioral therapy studies are expanding such efforts, and evidence suggests patients can find significant benefit with only one of the therapy’s components: behavioral activation for treatment of depression. The approach emphasizes improving thoughts, mood, and quality of life¹⁵ by focusing on what leads

to depressed behavior, revisiting value systems, and resisting avoidance by focusing on emotional acceptance and behavior changes.¹⁶ For a time, researchers had de-emphasized the behavioral aspect of cognitive behavioral therapy, but research suggests behavioral approaches may be as effective as the complete cognitive behavioral therapy treatment,¹⁷ which is promising for people who have limited available time or need efficient interventions, such as cancer patients in a hospital setting.

For the depressed breast cancer patients with whom we worked, behavioral activation and problem-solving interventions improved psychological outcomes and quality of life.

From 2008 to 2011, I was the project coordinator involved in a behavioral activation study led by Derek Hopko, PhD, of the University of Tennessee, Knoxville,¹⁶ and also served as a therapist. The experience was enlightening: patients in the behavioral activation arm had decreased bodily pain, not just decreased depression. In fact, nearly three quarters of patients exhibited clinically significant improvement with their depression. Further, treatment gains across outcome measures (bodily pain and depression) were maintained at 12-month follow-up, suggesting that the treatments may elicit enduring effects. For the depressed breast cancer patients with whom we worked, behavioral activation and problem-solving interventions improved psychological outcomes and quality of life.

The behavioral activation intervention for treatment of depression involved seven stages, with initial sessions assessing the function of depressed behavior, promoting efforts to weaken access to positive (e.g., sympathy) and negative reinforcement (e.g., escape from responsibilities) for depressed behavior, establishing patient rapport, and introducing treatment rationale. The sessions then provided a systematic activation approach to increase the frequency and reinforcement of healthy behavior. The emphasis then shifted to identifying behavioral goals within major life areas.

The behavioral goals defined the social environment in which treatment would progress, not just the impact of the breast cancer. For example, patients looked at their relationships with their life partners; their children, parents, and siblings; and their friends. Patients learned to honestly address both positive life experiences—such as hobbies and favorite activities—while

also addressing work, finances, housing, other health problems, and legal issues.

From the Hopko study¹⁶ and many others, to improve the patient experience and provide care that is truly patient-centered, we must return the fight to the patients, giving them the tools and the confidence to regain control of their lives, whether or not they are able to control their disease.

Bringing Cognitive Behavioral Therapy to Those Who Need It

As discussed earlier, it is important that physicians and other healthcare professionals recognize when their patients need help. When patients first arrive for cancer treatment, the admitting staff need to evaluate each patient's initial mental health needs—some will already be struggling with mental health challenges when they receive their cancer diagnosis. As important, all patients should be monitored during and after their cancer treatments, as changes in their condition or emerging fears can lead to later mental health challenges—even years after tumors have been removed and the cancer experience has ended.

At many cancer programs, resources can be limited, though many have begun distress screening of patients. That effort has been aided by guidance from the oncology community, for example, “Screening, Assessment, and Care of Anxiety and Depressive Symptoms in Adults With Cancer: An American Society of Clinical Oncology Guideline Adaptation,” which appeared in the *Journal of Clinical Oncology* in 2014.¹⁸ The guideline adaptation addresses 1 of 18 symptom topics that ASCO's Cancer Survivorship Committee has identified as important for cancer patients.¹⁸

The guideline provides valuable insight for screening, assessing, and caring for cancer patients and survivors struggling with psychosocial distress. Critically, the emphasis is on mental health throughout life, not just during treatment. As the authors state, physicians should evaluate all patients with cancer for symptoms of depression and anxiety periodically: at the initial visit, with changes in disease or treatment status (such as post-treatment, recurrence, progression), and if there is a transition to palliative or end-of-life care.¹⁸

Assessments should look for a range of anxiety and depression signs and symptoms (see the ASCO depression guideline at: asco.org/adaptations/depression), while amending standard checklists to reflect the unique patient population a clinic serves and any changes to best practices. The authors emphasize that every assessment will involve special circumstances, including (but not limited to) using culturally sensitive assessments and treatments, tailoring assessment or treatment for those with learning disabilities or cognitive impairments, and the tremendous difficulty of detecting depression in many older adults.¹⁸

Depression is not the only psychological response to evaluate. Many patients experience anxiety disorders, such as specific phobias and social phobia, panic and agoraphobia, generalized anxiety disorder, obsessive-compulsive disorder, and post-traumatic stress disorder.¹⁸

Generalized anxiety, the authors note, is the most prevalent of all anxiety disorders and commonly occurs with other mental illnesses, and patient worries generally extend to non-cancer topics and broad areas of life. Often, patients do not show symptoms of anxiety, but instead present excessive worry, too often dismissed as “concerns” or “fears.” Surprisingly, such concerns can far exceed true cancer-related risk, with excessive fear of recurrence, worry about multiple symptoms, or anxiety about symptoms not associated with current disease or treatments.¹⁸ In other words these patients’ level of worry is not in proportion to their actual cancer-related risk. For example, someone with an anxiety disorder will worry excessively about the cancer spreading or about dying even if they were diagnosed with a very curable cancer and have a great prognosis. While this is typically a sign of an anxiety disorder, physicians and patients’ family members will often dismiss these worries as “normal” or assume they’re typical fears cancer patients experience.

As important as the guidance Andersen and her colleagues provide for identifying patients needing psychosocial support are their recommendations for ensuring that support continues. People with depression and/or anxiety often fail to follow through on referrals or comply with treatment recommendations, so the guidelines recommend the following checklist:

- Assess follow through and compliance with individual or group psychological/psychosocial referrals, as well as satisfaction with those services.
- Assess compliance with pharmacologic treatment, patient concerns about adverse effects, and satisfaction with symptom relief provided by the treatment.
- Consider tapering a patient from medications prescribed for anxiety if symptoms are under control and if the primary environmental sources of anxiety are no longer present.
- If compliance is poor, assess and construct a plan to circumvent obstacles to compliance or discuss alternative interventions that present fewer obstacles.
- After eight weeks of treatment, if symptom reduction and satisfaction with treatment are poor, despite good compliance, alter the treatment course (e.g., add a psychological or pharmacological intervention; change the specific medication; or refer the patient to individual psychotherapy if group therapy has not proven helpful).

Future Directions for Treatment

Despite the critical need for psychotherapies in cancer treatment, they are not available to all patients and are rarely covered by

insurance—particularly when patients transition from active treatment

My current research at The Ohio State University Comprehensive Cancer Center–Arthur G. James Cancer Hospital and Richard J. Solove Research Institute is evaluating online cognitive behavioral therapy approaches, techniques that could both expand access and help cancer programs alleviate some of the stresses they face from an overwhelming number of patients needing emotional support. The computerized cognitive behavioral therapy treatment, *Beating the Blues*[®], is a stand-alone platform that includes eight online sessions that mirror what a patient would review if he or she went to a psychologist:¹⁹

- Problem definition
- Pleasurable events
- Automatic thoughts
- Thinking errors
- Distractions
- Challenging unhelpful thinking
- Core beliefs
- Attributional style (how you explain the causes of events).


The tools include behavioral activation and problem solving—as both of those elements have a strong record in clinical trials—providing standardized exercises, multimedia, and homework online at a patient’s preferred pace.

Randomized, controlled trials have demonstrated the effectiveness of *Beating the Blues* for depression and anxiety, with data showing patients maintained progress at a six-month follow-up, and as effective as face-to-face therapy.²⁰

Such interventions are becoming more important as more people transition from active treatment into survivorship. Current estimates suggest 15.5 million cancer survivors live in the United States, according to the National Cancer Institute. Following the rigors of chemotherapy, radiation therapy, or both, many will be presented with life-long physical and emotional challenges, from pain, fatigue, urinary or bowel problems, and sexual dysfunction to fear of recurrence, body image distress, job loss, or loss of personal relationships. Psychological impact can be deep and existential, leading to a loss of self or failing self-esteem, or changes in life meaning and purpose.²¹

However, no matter how daunting such challenges are, we know how to address them, and we know how to help patients fight back. While psychotherapy has long had to compete against internal medicine for public favor, society now recognizes that mental health is health, and that our minds and bodies are not independent.

Culture is changing, and processes for managing disease are changing with it. If we all work together to expand awareness of the need for psychotherapy for cancer patients—and access—outcomes will change, experiences will improve, and lives will be

saved. These are goals within reach, and now is the time to encourage the best practices that will bring them to fruition. 

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