

## ORIGINAL ARTICLE

# Managing Anxiety and Depression During Treatment

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■ **Abstract:** Here, we review the prevalence and treatment of anxiety and depression among patients with breast cancer. Cancer-related symptoms include similarities to responses to traumatic stress. Well-developed screening devices for identifying and tracking psychiatric comorbidity are discussed. Basic principles of psychopharmacology, and individual and group psychotherapy are presented. Finally, effects of effective treatment of anxiety and depression on quality of life and overall survival are reviewed. ■

**Key Words:** breast cancer, anxiety, depression, psychopharmacology, psychotherapy, outcome, survival

Anxiety and depression are the most common psychiatric disorders, and may be induced or exacerbated by the diagnosis and treatment of breast cancer. These comorbid illnesses affect quality of life, adherence to treatment, social support, and survival time. Effective coping with the disease involves dealing with its direct and indirect effects. Facing breast cancer and its consequences requires acknowledging and managing strong but inevitable emotions that can interfere with medical care (1), family and vocational engagement, sleep, diet, and exercise (2).

A high prevalence of psychiatric and psychological problems affect patients and families before, during, and after cancer care and treatment.

While many would like to maintain a positive view of the diagnosis and treatment for cancer, for many a diagnosis of breast cancer constitutes a trauma analogous to experiencing a physical assault, accident, or natural disaster. Many patients remember the date and time they received their cancer diagnosis, exactly where it was discussed, who said it, the specific words that were used, and how they felt. These life-altering, life-changing moments are, psychologically riveting. In the initial period of diagnosis and treatment, the term *acute stress disorder* or *posttraumatic stress disorder*

(PTSD) may best describe the psychological problems that occur (3). In one study of breast cancer patients after treatment, 5–10% met diagnostic criteria for PTSD, (4) and the symptoms changed little over the ensuing year (5). Such patients experience intrusive thoughts, disbelief, avoidance, inability to sleep, fears, and physiological hyperarousal. Their lives change suddenly from the mundane routine of work or family activities, to a string of doctors' appointments, receiving life-altering news and data in technical language, making appointments for surgery, blood draws, chemotherapy, and radiotherapy.

As patients move through the stages of cancer care, the trauma response may persist from acute stress to a more chronic PTSD (6–8). Even cessation of acute treatment can be fraught with anxiety about recurrence and withdrawal of active medical support. Yet many patients and their families also experience what has been called posttraumatic growth, an altered perspective on what matters in life that comes from facing and dealing with major life stressors (9). This ability to come to terms with the implications of the disease and enhance relating to others, appreciation of life, and spiritual change occurs in a substantial proportion of cancer patients (10,11) and in some cases predicts better long-term adjustment (12).

## SCREENING FOR PSYCHOLOGICAL PROBLEMS

In 1997 the National Comprehensive Cancer Network published the Distress Management Guidelines,

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which is updated regularly as a tool for oncology clinicians to develop a differential diagnosis of distress, including common psychiatric disorders and psychosocial and spiritual problems (nccn.org). More recently, the NIH has developed a series of brief reliable and valid measures, the Patient-Reported Outcomes Measurement System (13,14).

## SLEEP

Eighty percent of patients undergoing chemotherapy and more than two-thirds of women with metastatic breast cancer experience poor sleep (15,16), which is associated with numerous negative physical and mental health outcomes (17,18). Sleep duration and disruption have been associated with all-cause mortality (19,20). The precise relationship, however, is likely complex because some studies have shown that short sleep duration is implicated in earlier mortality (21), whereas others suggest the relationship is quadratic, in which both shorter and longer sleep duration than normal are predictive of shorter survival (22).

Although precipitating factors for the development of sleep disruption include stress associated with the diagnosis of cancer and its treatment (23,24) and cytotoxic chemotherapy and its side effects (25), the mechanism behind the development of sleep disruption and how it might affect survival is not well understood (18). Prior studies found relationships between tumor characteristics and spread, receptor status, and treatment with survival in metastatic breast cancer (26). Other studies have shown that circadian dysregulation measured by flattened cortisol rhythms (27) and depression (28) are independent prognostic factors for survival in metastatic breast cancer. We have recently found that better sleep efficiency and less sleep disruption as measured by wrist actigraphy are significant independent prognostic factors of overall survival time in women with advanced breast cancer (29).

## TREATMENT INTERVENTIONS

### Psychotropic Medication

**Antidepressants** It is clear that, as is the case with major depression in general, depression that arises in the context of cancer is responsive to antidepressant treatment (30). Antidepressants decrease depressive symptoms, improve functional capacity, reduce

cachexia, ameliorate some menopausal symptoms, and reduce pain (31). Even patients with advanced disease benefit, despite not having the full range of depressive symptoms (32). Selective serotonin reuptake inhibitors may improve depressive symptoms without reducing fatigue (33).

### Antianxiety Agents

Antidepressants have antianxiety properties as well and can be utilized effectively for the common problem of mixed anxiety and depression. Benzodiazepines can provide immediate short-term relief of anxiety symptoms, but generally are not a good strategy for long-term treatment, in part because of the likelihood of habituation and a tendency to produce dependence. Withdrawal from high doses can be a serious medical problem, including risk of seizures.

### Psychosocial Interventions

The efficacy of psychosocial treatments for depression and anxiety in medically ill patients, particularly brief psychodynamic, educational, supportive, and interpersonal therapies, hypnosis, and behavioral and cognitive-behavioral methods, has been established in numerous outcome studies (34–38).

### Cognitive-Behavioral Therapy

The cognitive-behavioral approach (39) is built on the assumption that previous social learning, developmental history, and significant experiences lead people to form a dysfunctional set of meanings and assumptions, or cognitive schemas, about themselves, the world, and their future. These schemas organize perception and govern and evaluate behavior (40). When specific schemas are activated, they directly influence the content of a person's perceptions, interpretations, associations, and memories, often in a way that exacerbates anxiety and depression. The cognitive behavioral therapy (CBT) therapist seeks to identify maladaptive cognitions, turn them into testable hypotheses, and submit them to open examination, so the patient can then reject, modify, or retain these thoughts based on the evidence. More adaptive cognitions and behaviors are similarly evaluated. In the early sessions, the goal of CBT is to establish a therapeutic relationship, identify primary problems, produce symptom relief, and educate the patient

about the role of thoughts, images, and beliefs on emotions and behavior. Together, the therapist and patient decide on the treatment goal, a plan for subsequent therapy sessions, and homework assignments intended to consolidate the therapy and direct structured practice. The initial homework often requires the patient to identify and record maladaptive cognitions (e.g., automatic thoughts). As therapy continues, verbal techniques are employed to trigger automatic thoughts and associated assumptions and reveal core beliefs or schemas. In an environment of collaborative empiricism, the patient learns to identify and evaluate, logically and empirically, the usefulness of systematic biases, cognitive distortions and dysfunctional assumptions, and thoughts, images, and beliefs that underlie emotional distress. The therapist helps the patient challenge cognitive distortions such as overgeneralization, catastrophizing, “should” statements, magnification, minimization, dichotomous thinking, and the fallacies of excessive control, worry, fairness, and attachment. Cognitive restructuring techniques and guided discovery help the patient to choose more adaptive cognitions and behaviors. Cognitive techniques used in CBT include thought-stopping, self-instruction, distraction, direct disputation, labeling distortions, and the development of replacement imagery. Behavioral techniques including activity scheduling, relaxation training, social skills training, mastery and pleasure ratings, assertiveness training, bibliotherapy, homework, behavioral rehearsal, and in vivo exposure are also employed.

### Group Psychotherapy

Group intervention in a variety of forms has become an increasingly popular, effective, and efficient means of providing psychosocial support for breast cancer patients (41,42). Groups of different types include psychodynamic, existential, educational, supportive-expressive, and cognitive-behavioral models (41). Although some cancer patients are initially disinclined to join a support group, most are also reluctant to undertake other aspects of cancer treatment as well. Many breast cancer patients, especially those with anxiety and depressive symptoms, need and can benefit from support in dealing with diagnosis and treatment, changes wrought by disease, social isolation, and existential issues.

Common elements of group psychotherapeutic intervention include the following (42):

**Social Support** Psychotherapy, especially in groups, can provide a new social network cemented by the common bond of facing similar problems. At a time when the illness makes a person feel removed from the flow of life, when many others withdraw out of awkwardness or fear, group psychotherapeutic support provides a new and meaningful social connection. Furthermore, members find that the process of offering help to others enhances their own sense of mastery of the role of “patient” and increases their self-esteem.

**Emotional Expression** The expression of emotion is important in reducing social isolation and reducing anxiety and depressive symptoms (43,44). Patients often have the mistaken belief that they are controlling the psychological and even physical impact of the disease by suppressing their emotional reaction to it. This attitude is often reinforced by friends and family who are made anxious by exposure to a patient’s appropriate fear or sadness. Medical professionals may perceive a patient’s sadness as an indication of dissatisfaction with treatment or loss of hope.

**Detoxifying Dying** Facing rather than avoiding existential concerns such as dying and death, which could be considered likely to exacerbate depression, actually helps to reduce it. This encourages patients to face what they most fear and find some aspect of it they can do something about (e.g., control the process of dying when death is unavoidable). This helps patients to feel more active and less helpless, even in the face of dying (42). Death anxiety is intensified by isolation, in part because patients often conceptualize death in terms of separation from loved ones. This can be powerfully addressed by directly confronting such concerns in a supportive psychotherapeutic setting (45). Even the process of grieving for others who have died of the same condition constitutes a deeply personal experience of the depth of loss that will be experienced by others after one’s own death.

**Reorganizing Life Priorities and Living in the Present** The acceptance of the possibility of illness shortening life carries with it an opportunity for reevaluating life priorities (46). This can help patients take control of those aspects of their lives they can influence, while relinquishing those they cannot (47).

**Enhancing Family Support** Psychotherapeutic interventions can also be quite helpful to families in

improving communication, identifying needs, increasing role flexibility, and adjusting to new medical, social, vocational, and financial realities (48).

*Improving Communication with Physicians* Support groups can be quite useful in practicing better communication with physicians and other health care professionals (49,50).

### **SYMPTOM CONTROL**

Many group and individual psychotherapy programs teach specific coping skills designed to help patients reduce cancer-related symptoms such as anxiety, anticipatory nausea and vomiting, and pain, which can exacerbate both anxiety and depression. Techniques used include specific self-regulation skills such as self-hypnosis, meditation, biofeedback, and progressive muscle relaxation.

Hypnosis is widely used for pain and anxiety control in cancer to attenuate the experience of pain and suffering (51). Instruction in self-hypnosis provides an effective means of reducing pain and anxiety (52,53). Hypnosis is an altered state of consciousness, consisting of heightened absorption in focal attention, dissociation of peripheral awareness, and enhanced responsiveness to social cues (49). It is effective in controlling somatic symptoms such as pain and anxiety. Patients with the requisite hypnotic capacity can be taught self-hypnosis exercises to effectively reduce cancer pain (49,52,53), and to facilitate participation in medical procedures (54).

#### **Mindfulness Training**

Mindfulness-based stress reduction enhances the ability to live in the moment and to tolerate stresses as real but transient phenomena, while more comfortably relating to one's body, often employing gentle yoga exercises as well (55). Such techniques have been used effectively with cancer patients. Other studies have shown that a combination of mindfulness with more traditional group therapy produces reductions in intrusive thinking and other posttraumatic stress symptoms (56), as well as reduced depression, fear of recurrence, and higher energy (57) among women with breast cancer. A recent study of mindfulness for primary breast cancer patients demonstrated greater reductions in stress symptoms than in an intervention involving emotional expression or a control group,

and showed that both treatment conditions resulted in normalization of diurnal cortisol levels.

*Electronic Technology-Based Interventions* Technology-assisted interventions are highly effective and offer great possibilities for dissemination. A peer-modeling videotape shown to patients shortly after diagnosis induced increases in vitality and posttraumatic growth and decreases in depression and intrusive thoughts (58). A combination of home visiting and telephone intervention resulted in reduced pain (59). Computer-based patient support tools provide information, decision support, and interaction with other patients and yield not only increments in knowledge but also better doctor-patient interactions and enhanced social support (60). Support groups have been adapted to the Internet with good effect. For example, online-mediated social support for cancer-related fatigue have proven beneficial (61).

### **OUTCOME**

Randomized clinical trials have demonstrated the benefit of group therapy for breast cancer patients (45,62–64), with notable reductions in pain (52,53) and emotional distress (44,65).

### **IMPLICATIONS FOR OVERALL SURVIVAL**

Psychotherapeutic intervention may affect survival time as well as quality of life (66–70). A year of supportive-expressive group psychotherapy resulted in a significant 18-month increase in survival time in metastatic breast cancer patients (66). A randomized replication trial of supportive-expressive group psychotherapy among 125 women with metastatic breast cancer demonstrated positive effects on mood (44) but no overall survival advantage (71), although there was a significant interaction with tumor type, such that those women with estrogen receptor-negative tumors who had been randomized to the group condition lived significantly longer than estrogen receptor-negative controls. A randomized educational group intervention trial among 227 women with primary breast cancer demonstrated that group support resulted in significantly lower rates of relapse and mortality at 11-year follow-up.

One large multicenter trial that utilized supportive-expressive group psychotherapy with metastatic breast cancer patients showed reduced distress and pain but

no survival advantage (72). However, the treatment arm in this study was more depressed than the controls at the beginning of the study, which indicates risk for shorter survival prior to intervention (28). Taken together, these studies suggest that psychosocial effects on survival time are more pronounced when medical treatments have become less effective (64). No study has found that psychotherapy shortens survival. The potential benefit of psychotherapeutic support on cancer progression remains an open research question, but receives further support from recent evidence that being married is associated with a 12–33% improvement in overall survival in ten kinds of cancer, including breast (73). This study involved analysis of SEER data from 2004 to 2008 involving 734,889 cancer patients with lung, colorectal, breast, pancreatic, prostate, liver/intrahepatic bile duct, non-Hodgkin lymphoma, head/neck, ovarian, or esophageal cancer. Being married was associated with better outcome among all ten cancer types, independent of demographics, stage and treatment. Thus, social support has a tangible effect on disease progression and survival time.

### SURVIVORSHIP

Survivorship is an increasingly important aspect of comprehensive cancer care as cancer survival improves. Supportive services and surveillance for anxiety and depression should continue after active oncologic treatment is completed (74). Domains of intervention include surveillance for recurrence and late effects of treatment, genetic issues, overall health maintenance, attention to psychiatric, social, behavioral, and financial problems, and other factors that affect mood and other aspects of quality of life. This includes attention to physical activity, which until recently has been a neglected area for breast cancer survivors. There is growing evidence that moderate to vigorous physical exercise improves health-related quality of life (75) and reduces depression (76) among cancer patients. Many survivorship programs are helping patients and their families deal with the aftermath of treatment through formal survivorship clinics, classes, group support, nutritional consultation, social services, and psychiatric support.

### CONCLUSION

Anxiety and depression are frequent but treatable problems that can complicate the lives of breast

cancer patients and their families. Frequent assessment and early intervention can improve quality of life, adherence to treatment, and overall outcome.

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