

# Mood Disorders in Breast Cancer Patients

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## **Abstract**

*Diagnosis of breast cancer, the most common form of cancer among women in developed nations, has a large impact on a patient's mood state and quality of life despite the many treatments available. This article summarizes the main assumptions on mood disorders in women with breast cancer. Psychosocial and medical factors are considered in relation to the different stages of illness. Evidence-based psychosocial interventions and skills that aim to improve a patient's mood and emotional well-being are delineated. Information tailored to the individual woman's needs and empathic communication is essential to reduce psychological distress in breast cancer care.*

## **Introduction**

Breast cancer is the most common form of cancer among the female population of developed nations. The illness is diagnosed in over 300,000 women in the European Union every year.<sup>1</sup> Due to new treatment options, the majority of women diagnosed with breast cancer today can expect to live with the disease for a long time. Living with breast cancer demands an increase in a patient's physical reserves and psychological and social resources to survive and cope with the illness.<sup>2</sup> Although women diagnosed with breast cancer now have more treatment options than ever before, the psychological concerns still impose a large impact on a patient's quality of life.<sup>2</sup>

This article describes the psychological impact of breast cancer diagnosis and treatment in terms of mood disorders and the determinants of psychological adjustment to illness. The main psychological interventions available for breast cancer patients today are briefly reviewed as well.

## **Breast Cancer: Psychological Impact and Psychosocial Adjustment**

In a study on correlates of breast cancer and its treatment, Meyerowitz<sup>3</sup> delineated the psychosocial impact of illness in three main areas: mood disorders (eg, anxiety, depression, and anger), changes in life pattern (eg, physical discomfort, marital or sexual problems, decreased activity level), and fear and concern (eg, regarding mastectomy, loss of breast, body image, illness recurrence, and death).

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Studies conducted throughout the world have estimated the prevalence of mood disorders in breast cancer patients. The prevalence of anxiety disorder in these studies ranges from 1% to 49%, and prevalence of depressive disorder ranges from 0% to 46%, depending on the year of evaluation.<sup>4</sup>

Mausell and colleagues<sup>5</sup> evaluated 205 women 3 months after breast cancer diagnosis, and found that 15% presented with a high level of psychological distress and anxiety, depressed mood, social withdrawal, and physical complaints. Symptoms of anxiety are present in most breast cancer patients, but only 25% to 30% present with a clinically relevant anxiety disease.<sup>5</sup> A nationwide cohort study in Denmark, included 356,000 women with primary invasive breast cancer, pointed out that the recruited subjects had a significantly increased incidence of psychiatric admissions with affective disorders, anxiety disorders, and non-natural mortality.<sup>6</sup>

Although it has been reported that the frequency of psychiatric disorders remains stable in the first year after surgery,<sup>7</sup> psychological distress usually decreases over time. De Florio and Massie<sup>8</sup> underline that prolonged anxiety or depression is not an expected reaction to a cancer diagnosis. In their review of 17 studies (published between 1967 and 1993) on the prevalence of depression in women with breast cancer, De Florio and Massie observed that depression occurred in 15% to 50% of women with the illness. The authors attribute this variance to the lack of standardization of methodology and diagnostic criteria.<sup>8</sup>

Lack of any hope for the future is a risk factor for suicide. Sensitive exploration of suicidal thoughts, plans, and access to means is crucial in depressed women with breast cancer. Referral of women experiencing adjustment problems for appropriate intervention may prevent the development of more enduring and disabling emotional disturbances such as depression.

Two sets of factors can contribute to emotional response to breast cancer: (1) psychosocial context and psychological variables; and (2) medical or physical factors that the woman must confront in terms of disease stage, treatment, response, and clinical course.

## Determinants of Psychological Adjustment

### Psychological Variables

A number of determinants of poor adjustment to illness have been described.<sup>2</sup> These include younger age, the types of social tasks threatened or interrupted, low socioeconomic status, difficult family relationships, low perceived social support, other stressful life events, prior breast cancer experiences in the family life span, prior psychiatric diseases, substances abuse, high trait anxiety, and high investment in ones body.

Regarding the woman's personality and coping patterns, many studies suggest that patients who rely on an active, problem-solving approach to the stresses of illness exhibit less distressed mood and better adaptation.<sup>9</sup> In addition, other studies show that while information-seeking and problem-solving skills may be important during treatment planning, use of denial and avoidant coping strategies during active chemotherapy or radiation may be more helpful in minimizing treatment side effects.<sup>10,11</sup> In their recent study, aimed to generate distinct clusters of newly diagnosed breast cancer patients with respect to decisional control, psychological adjustment, and frustration expression, Hack and colleagues<sup>12</sup> found that women from the low avoidance coping cluster were significantly better adjusted and preferred more active involvement in treatment decision making. These data fit well with those of McCaul and colleagues,<sup>13</sup> who examined possible predictors of adjustment to cancer and found avoidant coping to be the most consistent. Further research is needed to prospectively detail the mechanisms by which cognitive avoidance and other coping strategies hamper psychological adjustment to cancer.

### Medical Variables

Women with breast cancer experience a number of illness and treatment-related physical symptoms that may significantly affect their quality of life and increase the risk of developing serious levels of anxiety and depression. We report the major results of updated studies on this matter.

### Surgery

Approximately 10% to 56% of women experience some degree of social or emotional impairment 1–2 years after mastectomy; for a significant minority,

problems may persist beyond 2 years posttreatment.<sup>14,15</sup> An Australian cross-sectional study<sup>16</sup> aimed to determine the prevalence of psychological morbidity in women with early stage breast cancer 3 months after conservative breast surgery or mastectomy. The authors found that 45% of the women had a psychiatric disorder, most commonly depression or anxiety. Twenty percent of the subjects had more than one disorder. Nearly one third of the women felt less attractive and most had lost interest in sexual activity. Breast conservation surgery was associated with a better body image.

In the last 2 decades, changes in surgical treatment options have instigated research on the differences in social, emotional, and sexual functioning among women undergoing radical versus conservative surgery. The effects potentially associated with a radical surgery include feelings of mutilation and altered body image; diminished self-worth; loss of a sense of femininity; decrease in sexual attractiveness and function; anxiety; depression; hopelessness; guilt; shame; and fear of recurrence, abandonment, and death.<sup>17</sup> Despite the variability in methods employed, most of the studies pointed out that women who receive breast-sparing surgery are less self-conscious, have a better body image, report greater satisfaction with sexual activity, and experience a better overall adjustment to illness.<sup>2</sup> It is important to be aware that breast conservation is not a psychosocial panacea; rather it serves to provide a woman with care options that may facilitate her adaptation to the illness.<sup>18</sup>

Fallowfield and colleagues<sup>19</sup> found depressive symptoms in 29% of women undergoing mastectomy compared to 22% of those receiving lumpectomy. Twelve months after surgical intervention this rate decreased to 21% in both groups.

Breast reconstruction and its implications represent another significant topic in breast cancer psychosocial research. Literature on the topic can be divided into four sets of studies: the psychosocial impact of (1) radical mastectomy compared with radical mastectomy plus reconstruction; (2) conservative mastectomy compared with radical mastectomy plus reconstruction; (3) the psychological variables of women who seek versus those

who do not seek reconstruction; and (4) women's response to reconstruction.<sup>2</sup> These studies show that there is no evidence that women requesting reconstruction are more vulnerable. Rowland and colleagues<sup>2</sup> report that these women show better adjustment levels compared to those who do not seek reconstructive surgery, and state that quality of life was comparable among women receiving breast conservation and those undergoing mastectomy with immediate reconstruction.

In an Italian study aimed to evaluate psychological reactions of patients undergoing breast reconstruction, Franchelli and colleagues<sup>20</sup> found that women who underwent successive reconstruction using prostheses had a higher distress level and a worse perception of their body image than those who underwent immediate reconstruction using autologous tissues.

In the largest prospective study to date, the psychological variables associated with breast reconstruction versus no surgery were examined.<sup>21,22</sup> The authors found that women seeking consultation for reconstruction were emotionally well adjusted, high functioning, and physically looked no different from their peers who did not seek surgery. The women who underwent reconstructive surgery experienced better psychological, social, and sexual functioning after the surgery. Although more than 80% stated they were happy with the overall result, women who pursued reconstruction primarily to please others, or with the expectation of improving sexual and social relations, were at risk of disappointment.

Comparisons between women who underwent reconstruction and those who opted not to, suggest that women who are at increased risk for subsequent emotional or surgical disappointment may choose not to undergo the reconstructive surgery. Finally, the study also indicated that women may react as strongly as their younger counterparts to breast loss.

The results of these studies should be considered with caution as they are not derived from randomized studies. However, the findings provide overall understanding of who seeks reconstructive surgery and why, and clarification of some common misconceptions about the topic.

### **Radiotherapy**

When radiation treatment begins,

women are more likely to feel anxiety than to experience symptoms of depression.<sup>2</sup> The beginning tension and trait anxiety observed are good predictors of a patient's psychosocial functioning during radiation treatment.<sup>23</sup> Even if anxiety can be allayed after the first few treatments, it often returns as the end of treatment approaches due to fear of tumor recurrence. Paradoxically, the distress of patients may increase in the form of anxiety and depression symptoms just as they are concluding the radiation therapy experience.

Hughson and colleagues<sup>24</sup> evaluated psychosocial morbidity comparing women who underwent radiotherapy with women who underwent only surgical intervention. One month after mastectomy, the two groups had no differences; at 3 and 6 months postmastectomy, the first group had more physical symptoms and poorer psychosocial functioning than women who did not receive radiation treatment.

Women undergoing radiation are at higher risk of psychological disturbance, which may vary widely as to the degree of discomfort and fatigue produced. Because of this risk, mood states should be monitored by staff, not only during but also after the end of treatment.

### **Follow-up**

Many women experience elevated fear of recurrence right before follow-up visits, diagnostic examinations, and finding out their tests results; the fear usually returns to normal with news of normal findings.<sup>2</sup> Reassurance and psychological support should be provided through staff availability by telephone contact and by systematic scheduling of follow-up appointments.<sup>2</sup>

### **Adjuvant Chemotherapy**

Chemotherapy involves a lengthened treatment period in which women have to cope with several traumatic events related to side effects of therapy (ie, nausea and vomiting, hair loss, weight gain, concentration problems, and fatigue), as well as therapy-related fears and threats. Although some women can cope with the short-term adverse psychological effects of chemotherapy by focusing on the delayed benefits, the procedure continues to be perceived as a principal source of distress.

Meyerowitz and colleagues<sup>25</sup> examined the psychological implications of adjuvant chemotherapy both during and 2 years after completion. The last assessment with disease-free women

demonstrated that 23% reported problems with personal and family relationships during treatment, and 44% had continuing physical disease 2 years later. Despite this, most women recommended therapy to friends in a similar situation.

The relationship between psychological distress and toxicity from chemotherapy has been analyzed in a clinical trial comparing standard adjuvant chemotherapy with an increased dose-intensity regimen.<sup>26</sup> Multivariate analyses showed that, during chemotherapy, only mucositis and asthenia were significantly associated with a higher psychological distress.

Alopecia has been reported to be a common source of distress during adjuvant chemotherapy. Some women find alopecia, a visible indicator of disease that is overtly disfiguring, to be even more distressing than the surgical intervention. It is a visible indicator of disease and is overtly disfiguring. Rowland and colleagues<sup>2</sup> sustain that women rate their hair loss to be as devastating as learning of their diagnosis.

Other troublesome effects of chemotherapy include weight gain, fatigue, and premature menopause. Weight gain is related to negative self-esteem and should be monitored during chemotherapy by planning an exercise program and nutritional guidance. Fatigue may continue to distress patients long after chemotherapy has ended, as demonstrated by Tierney and colleagues<sup>27</sup> in a study on the side effects of treatment. Hot flashes, night sweats, vaginal dryness, and atrophy associated with premature menopause, determine severe discomfort in breast cancer patients.<sup>28</sup> A further effect is loss of libido, which for many women represents the most difficult sequelae to treat.

These experimental findings support the need for psychological counseling and psychotherapy in breast cancer patients, and confirm that psychological preparation for chemotherapy is always necessary in clinical practice. Preparation should include patient educational materials, nursing input, and an outline by the physician of the disease-related and treatment-related expectations.<sup>2</sup> The physician should also prepare the breast cancer patient to cope with the emotional reactions that may occur when treatment ends. As has been widely demonstrated by clinical experience, reactive depression and

anxiety are more frequent during this period than earlier on during treatment and can require more than one form of psychosocial intervention. Many women would benefit from knowing that it may take months, not weeks, before they feel their energy is back to its preillness level.<sup>2</sup>

### Recurrence and Advanced Disease

With recurrence, patients with breast cancer and their families confirm all the fears they have held since the diagnosis. Hall and colleagues<sup>29</sup> found that 25% to 50% of women who suffered recurrence of breast cancer reported high levels of anxiety and clinically significant depression. In a Japanese study investigating the prevalence of and risk for psychological distress following first recurrence of breast cancer, Okamura and colleagues<sup>30</sup> found that 42% of the subjects met the criteria of the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition-Revised*,<sup>31</sup> for major depressive disorder and adjustment disorders, and a disease-free interval of less than 24 months significantly predicted a diagnosis of these mood disorders. The data reported suggest that it is important for all oncology staff members to pay careful attention to the psychological health of patients who have been informed of their cancer recurrence, and that psychosocial intervention is necessary to prevent distress in patients facing early recurrence.

Advanced and terminal disease requires supportive care that is aimed at comfort and control of symptoms. Because pain can be a central concern in breast cancer patients, oncology staff must pay attention in the management of care. Cancer patients with pain are in fact more likely to exhibit higher levels of mood disturbances. Addressing the meaning of and the response to pain from the perspective of the patient is a relevant matter in palliative care. In their study on group therapy and hypnosis with metastatic breast cancer, Spiegel and Bloom<sup>32</sup> found that beliefs about the meaning of the pain in relation to the illness predicted level of pain better than sites of metastasis.

### Psychosocial Interventions

A variety of psychosocial interventions are valid in the oncology setting. In breast cancer care in particular, it is necessary to improve personal and envi-

ronmental resources, and to enhance coping strategies of patients at every stage of their illness. Information, counseling, psychoeducational interventions, individual and group psychotherapy, psychopharmacotherapy, peer support, and self-help groups represent the main documented forms of psychosocial support. Several meta-analyses contribute to confirm the effectiveness of the above-named interventions in alleviating anxiety and depressive symptoms; improving information and awareness levels, social functioning, quality of life and body image; and reducing illness- and therapy-related distress.<sup>2</sup>

With regard to psychotherapy and psychological counseling, Burke and colleagues<sup>33</sup> delineated interventions with breast cancer patients in two broad areas: cognitive-behavioral and supportive-expressive interventions.

Cognitive-behavioral therapy includes problem solving skills, lifestyle change and/or modification, identification of dysfunctional thoughts and behaviors, behavioral reinforcement or modification, relaxation, coping distress and ability acquisition training, meditation, hypnotherapy, biofeedback, systematic desensitization, and guided imagery.

Supportive-expressive therapy includes supportive (ie, psychological counseling), psychodynamic, existential, supportive-expressive, and crisis psychotherapy approaches. These theoretical constructs are aimed at helping patients face and adjust to their existential concerns, express and manage disease-related emotions, increase social support, enhance relationships with family and physicians, and improve symptom control. Psychotherapists provide support throughout with empathetic listening and encouragement.

The literature on psychotherapeutic treatments of breast cancer patients provides uniform evidence for an improvement in mood, coping, and adjustment after group therapy. Classen and colleagues<sup>34</sup> evaluated a randomized clinical intervention trial in which women who were offered 1 year of weekly supportive-expressive group therapy and educational materials were compared to those who received educational materials only. Primary analyses indicated that participants in the treatment conditions showed a significantly greater decline in traumatic stress symptoms; when final assessment occurring within 1 year of death was removed, a secondary anal-

ysis also showed significantly greater decline in total mood disturbance.

A case-control study by Goodwin and colleagues<sup>35</sup> seems to confirm these findings with regard to the role of supportive-expressive therapy in improving mood and the perception of pain, particularly in women who are initially more distressed. However, the authors stated that this group intervention does not prolong survival in women with metastatic illness.

In their study, aimed to examine feasibility of group psychotherapy with recently diagnosed patients, Spiegel and colleagues<sup>36</sup> recruited 111 patients to participate in a supportive-expressive group therapy of 12 weekly sessions. Assessment of mood disturbance was made at entry, and at 3, 6, and 12 months. Results indicated a significant 40% decrease in the total mood disturbance score of the Profile of Mood States; the total score of the Impact of Event Scale and of the Anxiety and Depression Scale were significantly reduced over the 6-month period. Outcome was independent of stage of illness.

Results regarding cognitive-behavioral approaches are more controversial. In a recent study, Antoni and colleagues<sup>36</sup> tested the effects of a 10-week group stress management intervention in 100 newly diagnosed women and found that the intervention reduced the prevalence of moderate depression but did not affect other measures of emotional distress. The intervention also increased participants' report that having breast cancer had made positive contributions to their lives, and it increased generalized optimism. Both results remained significantly elevated at a 3-month follow-up of the intervention. A further significant finding was that group intervention had its greater impact on these two variables only among women who were less optimistic at baseline.

Some studies are focused on the differences between short-term and long-term effectiveness, or on relation between benefits of intervention and stage of illness. For example, Hosaka and colleagues<sup>38</sup> investigated the clinical effectiveness of a 5-week structured group program for Japanese breast cancer patients, and reported that benefits continued to persist for 6 months after the end of intervention only in patients without nodal metastases.

In a case-control study conducted by  
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Edelman and colleagues,<sup>39</sup> outcomes data in the period following therapy showed reduced depression, reduced total mood disturbance, and improved self-esteem, but these improvements did not persist at the 3- and 6-month follow-up assessments.

Moreover, the literature documents the role of particular cognitive-behavioral skills (such as presurgery hypnosis or guided imagery and relaxation training for women undergoing chemotherapy) to reduce treatment-related anxiety and improve mood state in critical periods of illness.<sup>40,41</sup>

## Pharmacologic Interventions

A number of pharmacologic interventions are widely used in breast cancer patients, during all stages of disease. Four recent articles reviewed pharmacologic properties, clinical indications, and adverse effects of the following psychotropic agents used in cancer patients: benzodiazepines,<sup>42</sup> neuroleptics,<sup>43</sup> antidepressants,<sup>44</sup> and others.<sup>45</sup> Most of the psychotropic agents prescribed are benzodiazepines for reduction of psychological distress associated with chemotherapy, or for treatment of insomnia, and antidepressants in the management of depression. Although accepted guidelines on pharmacologic interventions in patients with cancer do not exist, some suggestions of how to proceed before prescribing a psychotropic agent are widely accepted.

One suggestion is that every pharmacologic intervention should be prescribed after careful consideration of the psychological status of the patient and the surrounding circumstances. As pointed out by Stiefel and colleagues "... the administration of psychotropics without a careful physical and psychological assessment is probably the most common mistake in their use."<sup>42</sup>

Another suggestion is that careful assessment of a patient's level of distress must precede medication prescription. Moderate distress or slight anxious or depressed mood are common during the course of the disease and should be addressed and discussed with the patient. A supportive context and a doctor-patient relationship centered on patient needs are very effective in bringing relief to a suffering patient. On the other hand, after a careful evaluation of the psychological

status of the patient, if the indications for medication use are good, clinicians should not hesitate to prescribe the pharmacologic intervention.

In conclusion, although a number of effective pharmacologic interventions are available for cancer patients, a clear indication for their use together with other supportive therapies remains to be defined. In every setting, clinicians should use all available resources, including psychologists and psychiatrists, in the process of cure and care of the patient.

## Conclusions

Many studies have analyzed psychosocial problems associated with cancer and its treatment. Breast cancer is probably the most widely studied. A number of effective interventions are available to deal with the problems associated with breast cancer treatment.

Although psychological problems, including body-image disturbances, depression, and anxiety are common in women with breast cancer, they are frequently underrecognized and undertreated. Moreover, although many recommendations have been implemented, the use of simple screening instruments to improve the detection of patients at risk have not been widely incorporated.<sup>46</sup> In addition, the more feasible interventions, such as counseling, are not necessarily incorporated into the routine care of these patients.

Although it is not clear which intervention is the most cost effective, cancer patient care can be substantially improved by an effective procedure designed to detect psychological distress and offer appropriate intervention to improve a patient's well-being. ●●●

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