

## ***Review-I***

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# Psychosocial Impact of Adjuvant Therapy in Breast Cancer

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### **SUMMARY**

**Breast cancer is one of the most common cancer among women. Following multimodality treatment approach survival has improved significantly. Despite effective therapies a significantly proportion of cancer patients will suffer social, emotional and psychological distress as a result of cancer diagnosis and treatment. As survivorship becomes more prevalent, appropriate consideration of quality of life is increasingly important.**

**The women undergoing adjuvant treatment suffer from anxiety, depression, adjustment problems, sleep loss and various cognitive changes like confusion, loss of concentration etc. In addition it adversely impacts on capacity to cope with disease burden. The financial burden is tremendous compounding the whole situation.**

**Psychosocial interventions have proven efficacious for helping patients and families confront the many issues that arise during this difficult time. Evidence is accumulating that psychological therapies improve emotional adjustment and social functioning, and reduce both treatment- and disease-related distress in patients with cancer.**

### **INTRODUCTION**

Breast cancer is the most common cancer<sup>1</sup> among women. In the world, there are more than 1,000,000 cases each year, and almost half of these are in countries defined as “less developed” by the World Health Organization. However, over the last 5 decades, our understanding of breast cancer has progressed considerably through continued research, and its mortality has started to decline.<sup>2</sup> Because of continuing research into new treatment methods, women with invasive breast cancer now have more treatment options and a better chance of long-term survival than ever before. Though the primary treatment of localized breast cancer is either breast-conserving surgery and radiation or mastectomy with or without breast reconstruction. Systemic adjuvant therapies including chemotherapy (anticancer drugs) and hormone therapy that are designed to eradicate microscopic deposits of cancer cells resulting from spread or metastasis from the primary breast cancer have shown an increase in the woman’s chance of long-term survival. In addition to these systemic therapies, radiotherapy is used in selected cases as a local adjuvant treatment to destroy breast cancer cells that remain in the chest wall or regional lymph nodes after mastectomy.

### **PSYCHOLOGICAL ISSUES**

Living with adjuvant therapy of breast cancer can pose specific problems that have a strong psychological impact, including body image and sexuality problems, interpersonal difficulties, and anxiety, fear or concerns related to survival and recurrence. Most people will experience minor or transient symptoms of anxiety and de-

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pression. Some will develop more severe problems, such as clinical anxiety, depression or post-traumatic stress disorder (PTSD), and will require specialized treatment .

## SELF-CONCEPT, BODY IMAGE AND SEXUALITY

### Self-concept

Treatment with radiotherapy, chemotherapy and hormone therapy can have a significant impact on self-concept i.e. the way in which people perceive or react to themselves. Living with it may affect personal self-concept (facts about the self or a person's self-opinion); social self-concept (perceptions of how one is regarded by others); and self-ideals (perceptions of oneself with respect to how one would like to be).<sup>3</sup>

### BODY IMAGE

Body image is a component of self-concept and involves the perception and evaluation of one's body, appearance and functioning.<sup>4</sup> People with breast cancer receiving adjuvant therapy face complex issues of body image, beyond those directly related to missing body parts or altered body parts.<sup>5</sup> This is consistent with reports by Australian women with breast cancer that sexuality entails "more than having breasts".<sup>6</sup> In considering body image it is important to conceptualize the person as a whole and social being. Adjuvant therapy affects to a lesser extent on the feeling of having lost or missing important organ of the body. However the complications subsequent to the treatment affects largely on body image so it remains an important concern for the women receiving adjuvant therapy.

### SEXUALITY

Sexuality is properly understood to encompass body image, self-esteem, mood, support and sense of emotional connection and intimacy. The body image plays a key role in sexuality. Concerns about current or potential sexuality problems are reported to be a major stressor and are associated with anxiety. Factors affecting sexual adjustment in individuals include the following.

- Age<sup>7</sup>
- Pre-existing problems in relationships or sexuality.<sup>8</sup>

- Pre-treatment menopausal status for women, treatment-induced change in hormonal status, chemical menopause may produce atrophic vaginitis and dyspareunia, while changes in androgens alter libido and orgasm.<sup>9-10</sup>
- Adjuvant chemotherapy, which affects sexual response, and desire, by interfering with the production of oestrogen and testosterone.<sup>11-13</sup>
- Alterations in body image due to alopecia, weight loss or weight gain subsequent to adjuvant treatment.
- Treatments that directly impair sexual function or pelvic organs. Radiation therapy in the pelvic or lower abdominal areas may significantly affect sexual activity, satisfaction and desire. For women, effects may include dyspareunia due to lack of lubrication or fibrosis of vaginal tissue.<sup>14-16</sup>

Many investigators have examined the effects of adjuvant chemotherapy on sexual functioning. Young-McCaughan<sup>12</sup> compared sexual outcomes in breast cancer survivors with and without a history of treatment with adjuvant chemotherapy who were an average of 7 years post diagnosis. Compared to women who were not treated with adjuvant chemotherapy, women treated with adjuvant chemotherapy were 5.7 times more likely to report vaginal dryness, 3 times more likely to report decreased libido, 5.5 times more likely to report dyspareunia, and 7.1 times more likely to report difficulty reaching orgasm. Likewise, Ganz et al<sup>13</sup> found that among women 1 to 5 years post treatment, sexual problems were more common in women who had received chemotherapy; Lindley and colleagues<sup>14</sup> reported an interaction between age and chemotherapy in that the greatest negative change in sexual functioning (as measured by a series of questions that included items measuring sexual satisfaction and interest) occurred in pre-menopausal women who experienced chemotherapy-induced amenorrhea. In contrast, Joly et al<sup>15</sup> did not find differences in sexual functioning in a randomized trial comparing cyclophosphamide,

methotrexate, and fluorouracil (CMF) to no adjuvant chemotherapy in their sample of breast cancer survivors. The results from this study suggest that the negative effects of chemotherapy on sexual functioning may diminish over time. This issue should be directly addressed by conducting research on sexual functioning in which women who have received different forms of cancer treatment are followed over extended periods of time.

Tamoxifen, an antiestrogenic agent, has also been hypothesized to have a negative impact on sexual functioning in breast cancer patients. Ganz and colleagues<sup>16</sup> examined the relation of tamoxifen use to sexual functioning in breast cancer survivors who were 1 to 5 years post diagnosis and over the age of 50 and did not find any difference in sexual functioning between women treated with or without tamoxifen. Finally, Mortimer et al<sup>17</sup> assessed sexual functioning in breast cancer survivors treated with tamoxifen for 2 to 24 months and found that the levels of sexual dysfunction were comparable to those in a normative sample of healthy women. Taken together, these studies suggest that tamoxifen use does not contribute to problems in sexual functioning in breast cancer survivors.

However more work is needed to understand the relationship between tamoxifen and sexual outcome in the patients.

#### STRESS AND ADJUSTMENT REACTIONS

The experience of the adjuvant treatment of breast cancer is for most people a stressful life event that is followed by a range of distressing symptoms such as anxiety and depression. While these symptoms are likely to be transient, people encounter a series of stressful events or challenges over time, which may pose different demands and difficulties.<sup>18-19</sup> As a consequence, a person's distress may become heightened at particular times, such as at disease recurrence, time or commencement of adjuvant therapy, at advanced disease stage, following treatment or

medical complications and giving up important things in life, making time available for meeting radiotherapy or chemotherapy sessions frequently or every day, waiting for treatment and observing others going through it, or presenting for medical surveillance.<sup>20</sup>

#### SEVERE EMOTIONAL DISTRESS

Although emotional distress in these people is normally occasional and time-limited, some people experience more severe emotional reactions. Stress and adjustment problems may include stronger negative feelings that can last for a week or more, and these can be difficult and disruptive to a person's life. If such problems are left undetected and unacknowledged, some can develop into more serious emotional states. Major psychological disorders include a major depressive episode, anxiety disorder, posttraumatic stress disorder (PTSD), or an emotional, behavioural or cognitive state that is overwhelming, lasts longer than a couple of weeks, causes significant impairment in functioning and over which the person feels they have little or no control.

#### ANXIETY

The treatment sessions lasting for some time and contact with doctors and the hospital affecting daily schedule produce distress and anxiety. The fear of extended sessions and the chances of success rates with possible relapse and subsequent surgery or intensive treatment places great stress and may cause severe anxiety in these patients. Symptoms associated with anxiety include heightened arousal, sleep disturbance, impaired concentration and decision-making, agitation and anger. Avoidance of distressing issues and situations, and excessive reassurance seeking, may also indicate anxiety problems. These responses can have a major impact on the individual's functioning and that of their family. Some people experience severe anxiety problems, including panic attacks, pervasive and generalized worry, treatment phobias, e.g. needle phobias, social anxiety and post-traumatic stress reactions. The anxiety state may become pervasive leading to future worries and apprehensions and subsequently to irritability.

Factors affecting anxiety disorders in these people include<sup>21</sup>

- Reaction to the stress of treatment
- Response to cancer-related medical problems such as uncontrolled pain
- Response to drug treatment, such as steroids
- Response to investigations such as CAT scans and magnetic resonance imaging (MRI)
- Exacerbation of pre-existing anxiety or specific fears and phobias, e.g. needle phobias.

Psychological distress does not consistently improve over time. Anxiety may also be a symptom of other medical conditions, such as thyroid disease, and is commonly associated with alcohol or benzodiazepine withdrawal. Levels of psychological distress are likely to be higher when disease burden or complications are more severe.

#### DEPRESSION

In addition to the personal suffering it causes, depression is probably the most important risk factor for suicide. Depression undermines the capacity of the individual to cope with illness and the treatment, and is associated with increased severity of medical symptoms, and additive impairment in social and vocational functioning. It is therefore not surprising that depression is also associated with increased health care costs in those with medical illness. In general medical settings the odds are three times greater that depressed patient will be non-compliant with medical treatment recommendations, and depressed patients with breast cancer have been found to be less likely to accept adjuvant chemotherapy.<sup>22-23</sup>

The prevalence of emotional distress is high in patients, most studies finding prevalence rates for depression ranging from 20%-35%. The key symptoms of depression include-low or flat mood or loss of interest in things that used to be enjoyable. In these patients, these symptoms are related to the disease process or treatment side effects. A diagnosis of a major depressive episode in patients is best evaluated by the

severity of depressed mood, loss of interest and pleasure, the degree of feelings of hopelessness, guilt and worthlessness, and the presence of suicidal thoughts. Recurrent tearfulness is often accompanied by social withdrawal and loss of motivation. The patient may feel they are unable to control the negative feelings and these feelings begin to dominate the day; on most days for two weeks or more. The likelihood of non-compliance is greatly increased and patients are more likely to miss treatment sessions and may even refuse the treatment modalities.

#### SUICIDE

Risk factors for suicide include severely depressed mood, a family history of completed suicide, past history of self harm and a history of alcohol or other substance abuse, poor social support, treatment complications and failure to respond to the treatment. Lack of hope for the future has also been identified as a powerful predictor of suicide risk, particularly in those with advanced cancer and treatment failure with adjuvant therapy. Assessment, and exploration of suicidal thoughts, is crucial to the early recognition and treatment of psychological distress for the patient

#### POST-TRAUMATIC STRESS DISORDER

Breast cancer being a potentially life-threatening illness is a sufficient stressor for the precipitation of PTSD, and there is a small but increasing research into traumatic symptomatology in patients with breast cancer receiving adjuvant therapy. The bulk of the research to date has focused on patients with breast cancer. Many who do not meet the strict criteria for PTSD still report a high level of intrusive symptoms such as recurrent thoughts about the cancer diagnosis, or aspects of treatment. For example, in one study of women with breast cancer, 44% reported a high level of intrusive symptoms. Risk factor for PTSD in women with breast cancer receiving chemotherapy and hormone therapy include less social support and greater pre-cancer trauma.<sup>24</sup> In patients treated with high-dose chemotherapy, lower levels of education and poorer health

status are associated with increased risk for PTSD. Traumatic symptoms may persist long term.

### COGNITIVE PROBLEMS

Impaired thinking, described as poor concentration, confusion 'or memory problems, is a common symptom reported anecdotally by people with cancer undergoing adjuvant therapy, and can be especially distressing. The cause of cognitive symptoms may be difficult to determine.

Studies in women with breast cancer treated with chemotherapy have reported cognitive impairment independent of mood disturbance. High-dose chemotherapy is more likely to be associated with cognitive impairment than standard-dose chemotherapy.<sup>25</sup> Immunochemotherapy also appears to be associated with increased risk of cognitive impairment.<sup>26</sup>

Older patients with poorer performance status and sub clinical tumour progression appear to be more vulnerable to cognitive effects.

### OTHER PSYCHOLOGICAL ISSUES

Women with breast cancer undergoing adjuvant treatment often report 'feeling out of control' or being angry, fearful or helpless. Grief and loss are often key issues and there may be powerful feelings of distress and fear that the treatment could fail and eventually cancer could be fatal. People treated for cancer may also find their life has changed in other ways such as frequent visits to the doctor and hospitalizations and curtailment of activities they enjoy.

Episodes of intense, unpleasant and distressing emotions such as tearfulness, fear and anger are very common. There are a number of potential barriers to patients discussing emotional concerns, including not having the words to describe how they feel, not wanting to be a burden, fearing breaking down, being ashamed of admitting problems with coping, or perceiving that the doctor is too busy or disinterested.

Psychological functioning and global quality of life gradually improves over three years after the treatment. A further prospective study involved a mixed cancer population<sup>27</sup> and reported that patients who experienced high levels of emotional distress, and physical tension-anxiety when they began a course of radiotherapy, were likely to have poorer function following the course of treatment than those who were not distressed when they began radiotherapy.

### SOCIAL ISSUES

There is little data regarding adjustment of women who have radiotherapy. Two studies examined the impact in women who had been randomized to chemotherapy or no chemotherapy; the treatment group reported greater fatigue, but there were no substantial differences between the groups at one year after surgery.<sup>27</sup> Patients almost unanimously considered peri-operative chemotherapy burdensome because of alopecia. Two prospective studies examined the impact of chemotherapy. One study included a comparison of the adjustment of mastectomy and breast conserving patients having radiotherapy or chemotherapy<sup>28</sup> reported more emotional distress and lower health status than the other groups. Three studies examined patients who were actually receiving chemotherapy. One found that physical symptoms were related to negative affects but not to positive affects.<sup>28</sup> The other reported that decreased mobility, nausea and fatigue were correlated with depressed mood and difficulty concentrating ( $p < 0.01$ ).<sup>29</sup> One prospective study of a mixed cancer population undergoing chemotherapy reported that among patients with nausea, ratings of overall treatment distress and difficulty were significantly higher if the nausea lasted more than 24 hours. In addition, 50% of patients in this study contemplated quitting chemotherapy, although only 20% shared their thoughts with medical staff. Two studies looked at the issue of chemotherapy in particular patients or setting The more recent of these compared patients

having chemotherapy at home with those having chemotherapy as inpatients in hospital. This study found clinical cases of anxiety and depression to be between 10-20%. Chemotherapy at home was more compatible with better quality of life than that which was hospital based. One prospective study followed women from the start of adjuvant chemotherapy to determine any psychological distress they experienced at the completion of their chemotherapy. Although most women were pleased to have completed adjuvant therapy; approximately one third felt that a safety net had been lost. Women tended to view their illness as chronic rather than acute, and had more side-effects during the last cycle of chemotherapy.<sup>30</sup>

#### SOCIAL IMPAIRMENT

Social support has been identified as an important factor in a person's adjustment to treatment for breast cancer, yet many people are faced with restrictions to social activities as a result of the disease. These patients report significant restrictions to social activities. Many experience psychological distress and lack of social support correlates with levels of depression.<sup>31</sup>

The adjuvant treatment often leads to loss of mate role and family role. Frequent treatments lead to disruption of daily routine and family functioning. The treatment takes great part of effort and time from the patient. Consequent to this there may be stress experienced by the partners and the children in the family. Data from descriptive and correlational studies also suggest that the adjustment of partner is closely related to the emotional and physical functioning of the patient. Parents coping with cancer may fail to recognize emotional distress in their children. Inability to discuss the illness with parents and spending less time with friends or on sport and leisure activities have been found to correlate with mal-adjustment.<sup>32-33</sup>

#### INTERPERSONAL PROBLEMS

Adjuvant treatment of breast cancer can place considerable strain on relationships, particularly in cases where difficulties existed before the diagnosis. Several studies suggest that problems in marital or family relationships may place a person with cancer at increased risk of psychological problems and affect their adjustment.<sup>32-35</sup>

In Indian literature there are no studies on psychosocial impact of adjuvant therapy in breast cancer. Some studies discuss the psychosocial impact of the breast cancer being diagnosed and surgical treatment (mastectomy) of breast cancer. In mastectomized women the psychological reaction is to the illness in general and Indian women, especially the rural folk voice their concern in terms of changed physical complaints.<sup>36-37</sup> Adjuvant chemotherapy and surgery duly interfere with social life, recreation and self-care and general health parameters, adversely affecting the quality of life in patients. Anxiety and depression are seen in women undergoing treatment leading to breast conservation. This perhaps is due to the diagnosis of cancer or little opportunity to choose the treatment.

#### DURING ADJUVANT TREATMENT

##### **Providing Emotional And Social Support**

A woman undergoing adjuvant therapy for breast cancer is likely to be faced with multiple concerns that can vary widely and change across time. Women may be concerned about the impact of treatment of breast cancer on their partner and children including practical issues such as the availability of child care. There is evidence that the coping of the woman affects the whole family.

Social support has been identified as an important factor in women's adjustment to treatment of breast cancer. Social support can be provided by health care professionals,<sup>38</sup> family or friends. Lack of support from family and friends may be associated with poorer emotional adjustment.

### SUPPORT FROM THE TREATING TEAM

Women undergoing treatment, provided with an opportunity to explore feelings with a member of the treatment team or counsellor, experienced less psychosocial distress, such as body image concerns and depression, than women not provided with this opportunity. Randomized controlled trials also demonstrate that women who received supportive care from a specialist breast nurse had lower rates of psychological distress, such as depression and anxiety, and increased levels of knowledge about treatment compared to those who did not receive such care. A breast nurse or other allied health professional (e.g. social worker) may be appropriate at all phases of care.<sup>39-40</sup> Some of the issues that need to be addressed in the course of treatment are as follows.

- Introduce the notion of active treatment of symptoms and the importance of its role in ongoing care.
- Discuss and clarify the current targets of symptom management and actively enquire about the woman's symptoms, particularly pain and fatigue.
- Provide the woman and her family with information about specific measures available for symptom relief.
- Provide the woman and her family with information about practical support services such as volunteers, emergency services etc.
- Actively encourage the woman to discuss how she and her family are coping with the treatment and how others' reaction to the disease is impacting on the woman's well-being. Where appropriate, make specific arrangements for counseling/support/information to be given to the woman and her family.
- Actively encourage the woman to discuss how her treatment is impacting on her relationships and social life, and whether her family is influencing her level of social interaction. Where appropriate, provide information about counselling and support, including support groups.

- Encourage open communication and expression of feelings and fears in relationships with family and friends.

### PSYCHOLOGICAL THERAPIES

Though many therapies as Cognitive Behavioural Therapy (CBT) that require expert intervention and teach skills in problem solving, reframing attitudes, coping with stress and anxiety there are many pragmatic interventions that a non-specialist can carry out.<sup>41-42</sup> Supportive psychotherapy encourages the expression of emotions and tries to generate a sense of support through empathic listening and encouragement. For those women whose breast cancer is diagnosed during pregnancy or after childbirth particular concerns such as breast feeding or the impact on the child may be an issue. These women may benefit from support and professional assistance. This may also be the case for women who have young children, as there is evidence that these women are at increased risk of emotional distress. Keeping the woman, her partner, children, and significant others continually informed about issues of most importance to them, such as the likely course of the disease, symptom management and service availability is an important aspect and must be addressed. Relaxation therapy or cognitive skills might be used in approaching problems more effectively. Techniques to enable gradual adaptation to fears might also be included.

The clinician should consider referring women who are experiencing sexual difficulties to personal and/or couple counselling and for endocrine assessment if a hormonal basis for the problem appears likely. Women experiencing interpersonal problems may be offered a referral to family counselling. In addition, family members should also be offered the opportunity to discuss concerns with the clinician or be referred to an appropriate counsellor or psychiatrist.<sup>43-44</sup>

### USE OF PSYCHOTROPIC MEDICATION FOR PSYCHOLOGICAL DISTURBANCE

The management of acute anxiety states, anxiety disorders and depression requires pharmacotherapy in addition to relaxation or other psychological interventions. The drugs

used for treatment of anxiety include benzodiazepines and anti-depressants. The decision to start psychotropic agents should be taken in conjunction with a professional. The choice of antidepressant medication should include consideration of the specific symptoms, which are distressing the person, the potential for side-effects, and risk of exacerbating current medical problems and the potential for drug interactions. It is generally appropriate to commence with a low dose and to increase this slowly. The tricyclic antidepressants have been used for many years for the treatment of depression. Their sedating properties are particularly useful for management of the agitated, depressed person with insomnia.

### CONCLUSION

The mortality due to breast cancer is decreasing world wide due to screening programmes (detecting patients in early stage), effective postoperative adjuvant therapy (chemotherapy and radiotherapy). A significant number of these patients undergo psychosocial distress right from diagnosis till treatment is over. Even during follow up, fear of relapse adds to this stress. The women undergoing adjuvant treatment suffer from anxiety, depression, adjustment problems, sleep loss and various cognitive changes like confusion, loss of concentration. Sexuality is an important issue to survivors undergoing treatment. The significance of such psychological sequelae is that they are more at risk for non-compliance and undergo much strain regarding their interpersonal and familial relationships. In addition, adjuvant treatment adversely impact on capacity to cope with disease burden. Their role as spouse and parent is under strain and puts the family under tremendous stress. Psychosocial interventions have proven efficacious for helping patients and families confront such issues that arise during this difficult time. All members of the treatment team may also play a role in strengthening the patient's own resources by providing additional emotional, informational and practical assistance, and appropriately fostering a sense of hope or optimism.

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