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ORIGINAL ARTICLE

Change and predictors of symptom distress in breast cancer patients following the first 4 months after diagnosis

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Background/Purpose: Breast cancer patients may encounter a wide range of physical and psychosocial distress symptoms during diagnosis, while awaiting treatment, and during treatment. This study of newly diagnosed breast cancer patients explores: (1) changes in symptom distress over 4 months; and (2) factors predicting changes in symptom distress.
Methods: A prospective longitudinal design was used to collect data from breast cancer patients in northern Taiwan. A set of questionnaires was used to measure anxiety, symptom distress, social support, and demographic and treatment-related characteristics. Repeated measures analysis of variance (RM-ANOVA) with least significant difference (LSD) was used to examine differences in symptom distress, state anxiety, and social-support levels across four time-points. Generalized estimating equation (GEE) is used to determine predictors for the change in symptom distress.
Results: Participants showed mild overall symptom distress during treatment that increased from cancer diagnosis to treatment phases, with a peak at 4 months after diagnosis. Insomnia was the most commonly identified distressful symptom over time. Changes in overall symptom

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distress were significantly predicted by state anxiety, health professional support, and time since cancer diagnosis.

Conclusion: Change in symptom distress following the first 4 months after diagnosis was predicted by state anxiety, health professional support, and time. Patients should receive social support and be trained in problem-solving skills to relieve distressful symptoms from diagnosis through treatment.

Introduction

Breast cancer, a common malignant neoplasm of breast tissue, is a serious and growing problem worldwide.[1] In the United States, approximately 182,000 women are diagnosed annually with breast cancer,[2] whereas in the European Union, 332,670 new cases are diagnosed each year.[3] In Taiwan, breast cancer is the most common cancer among women, with the second highest incidence in Asia.[4] In Taiwan, breast cancer was the fourth leading cause of death in women, with an incidence rate of 71.3 per 10,000 women.[5] To decrease local recurrence, the primary treatment modalities include surgical excision,[6] radiation therapy (RT),[7] surgery with concurrent chemoradiation therapy (CCRT),[7] and hormone therapy.[7]

However, breast cancer patients in the diagnostic phase, awaiting treatment, and undergoing treatment, may encounter a wide range of physical and psychosocial distress symptoms.[8] Symptom distress is defined as "the degree of discomfort reported by patients in relation to their perceptions of the symptoms being experienced (p. 273)".[9] Symptom distress also refers to "the physical or mental anguish or suffering resulting from the experience of symptom occurrence and/or feeling states (p. 243)".[10] Thus, physical symptoms could generate emotional responses. Breast cancer patients undergoing cancer-related treatment might experience numerous distressful symptoms, such as musculoskeletal pain, loss of energy, impaired limb movement, cognitive disturbances, changed sexual experience,[11] lymphedema,[11,12] upper body symptoms,[13] weight problems, and nausea.[14] Fatigue was the most commonly reported symptom in breast cancer patients undergoing chemotherapy and more likely to influence patients' sleep quality.[15–18] Sanford et al[18] surveyed 80 breast cancer patients before, during, and after adjuvant chemotherapy, indicating that the prevalence of poor sleep quality was 49–66% across the continuum of care and was correlated with lower health quality of life. Symptom distress may generate physical dysfunction and emotional disturbances, particularly typical symptoms such as upper-arm problems, sleep disturbance, fatigue, and body image disturbance, which develop gradually into long-term side effects.[11–19]

The correlates of symptom distress may be multifactorial, including social, psychological, and biological factors.[20] Approximately 20–30% of breast cancer patients have reported anxiety during treatment.[19,21,22] Andreu et al[23] reported that the prevalence of psychological distress was higher at the diagnosis phase (25%), then slightly decreased at the treatment phase (17%). Anxiety may persist from cancer diagnosis, throughout treatment,

to completion of treatment, and affects how patients cope with having cancer. Anxiety was reported by 80% of women after breast cancer surgery and 73% of women completing adjuvant therapy.[24] Anxiety was also found to be high in women awaiting surgery, to improve during treatment, and to increase at the end of therapy.[25] So et al[26] showed that breast cancer patients receiving chemotherapy were more likely to develop anxiety and depression compared to those who were receiving radiotherapy. Physical symptoms have been correlated with psychological problems, particularly anxiety, but the causal relationship is not clear.[20] Results from our recent study[27] indicated that 33.9% women with breast cancer reported high level of trait anxiety at the time of cancer diagnosis (T1), and the prevalence of high state anxiety was at T1 (83.9%), T2 (46.2%), T3 (35.7%), and T4 (21.9%). Therefore, women with breast cancer suffered from emotional problems, especially for the anxiety issue, from diagnosis to 4 months after diagnosis. Anxiety was proposed as an important psychological factor during the time of diagnosis and active treatment period. State anxiety is defined as an unpleasant emotional response while coping with a threatening situation, whereas trait anxiety refers to stable individual differences in a tendency to respond with an increase in state anxiety while anticipating a threatening situation.[28]

Social support is an important factor that influences coping with symptom distress in breast cancer patients. Lack of social support was significantly associated with higher levels of anxiety in these patients.[8] Women who perceived support from family, friends, and healthcare providers were also shown to have a better psychological adjustment.[10,25] Patients using avoiding communication were associated with negative coping, resulting in high levels of depression and anxiety.[29] Similarly, marital status and spirituality were shown to influence how patients cope with breast cancer,[30] and emotional problems in women with breast cancer were related to negative marital relations and poor communication with partners.[29,31] We hypothesized that physical symptoms lead to emotional responses,[10] social support may help to cope with symptom distress,[10,25,32,33] and higher trait anxiety is associated with a greater state anxiety[24,25] and more symptom distress.[20] Research focused on the trajectory of changes in symptom distress severity from breast cancer diagnosis through treatment phases is scant. Clinically, the first 4 months after diagnosis for this population almost completed half of the entire protocol, leading to experiencing some degree of treatment-related side-effects of adjuvant chemotherapy. Therefore, this study explores: (1) longitudinal changes in the symptom distress of newly diagnosed breast cancer patients, and (2) factors predicting changes in symptom