Shu-Yi Wang, MSN, RN, CNS
Ching-Wen Lee, MS, RN
Yue-Cune Chang, PhD
Chia-Chin Lin, PhD, RN

Symptom Distress Changes During First Postoperative Month in Newly Diagnosed Taiwanese Breast Cancer Patients

A Longitudinal Study

KEY WORDS
Breast cancer
Breast operation
Longitudinal study
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The purpose of this longitudinal study was to explore changes in symptom distress in newly diagnosed Taiwanese breast cancer patients during the initial 4-week postoperative period. The research instruments, including a demographic questionnaire and the Symptom Distress Scale, were used to obtain data on postoperative day 2 and at weeks 2, 3, and 4. In total, 39 patients with a mean age of 48 years participated in this study. Data were analyzed using descriptive statistics, *t* tests, one-way ANOVA, and repeated-measures ANOVA. Results revealed that the level of symptom distress significantly decreased from postoperative day 2 to week 4. Loss of appetite and a poor outlook increased; nausea frequency, fatigue, and insomnia decreased then increased; and frequency and the level of pain, coughing, tightness/tenderness in the chest wall, weakness, and numbness in the arm of the operative side all decreased over the 4-week study period. Age, stage of disease, and type of surgery were all related to symptom distress. Results of this study may provide reassurances about what can be expected after breast cancer surgery.

The breast is an important part of a woman's body. Breast cancer is life-threatening because it can spread to vital organs. Fortunately, the number of deaths from breast cancer has declined significantly in recent years.[1] These decreases are probably the result of earlier detection and improved treatment, but the battle is a long way from over. According to health department statistis in Taiwan, 26,134 women contracted cancer in 1999.[2] In the same year, 4405 breast cancer cases were reported. The majority of women contracting breast cancer are aged between 40 and 55 years. It has been reported that there is an increasing trend for cancer of the breast in Taiwan.[3] Once a diagnosis of breast cancer is

From the Graduate Institute of Medical Science, Taipei Medical University, Taipei, Taiwan (Ms Wang); the Cardinal Tien College of Nursing, Taipei, Taiwan (Ms Lee); the Department of Mathematics, TamKang University, Tamsui, Taiwan (Dr Chang); and the Graduate Institute of Nursing, Taipei Medical University, Taipei, Taiwan (Dr Lin).

Corresponding author: Chia-Chin Lin, PhD, RN, Graduate Institute of Nursing, Taipei Medical University, 250 Wu-Hsing St, Taipei 110, Taiwan (e-mail: clin@tmu.edu.tw).

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established, subsequent symptom distress from treatments, such as surgery, will interfere with the equilibrium of the body and psychosocial aspects. Nowadays, however, improved treatments and a rising survival rate have led breast cancer patients not only to entirely fear the illness itself, but also to worry about the symptom distress caused by their cancer treatments.[4] Despite the importance of symptom distress in cancer patients, in the past, most studies investigated symptom distress as a predictor of quality of life.[5] Importantly, longitudinal studies have shown a singificant importance of affective distress during the first year after breast cancer treatment.[6] There has been a lack of attention to symptom distress and its correlated factors postoperatively in breast cancer patients in Taiwan. Thus, the aim of the present study was to carry out a longitudinal follow-up of changes and correlations of symptom distress after breast cancer surgery in Taiwan. The results of this study may provide valuable information to help improve the quality of care for breast cancer patients postoperatively.

It has been reported that in 74 women with stage I or II breast cancer after receiving their diagnoses, the most serious symptoms were insomnia, fatigue, loss of concentration, lowered cognitive function, and mood disturbance,[7] Moreover, for patients who underwent surgery, patients with breast cancer frequently experience postoperative sensations in and around the axilla, breast, and chest wall of the affected side after breast cancer surgery.[8] Maunsell et al interviewed 223 breast cancer women 3 months after they had undergone surgery, and 82% of women reported experiencing at least one symptom distress. Numbness was the most prevalent (58%), followed by pain (55%) and stiffness (40%). Tasmuth et al[9] found that over 50% of 569 breast cancer patients who underwent breast-conserving treatment (BCT) or modified radical mastectomy (MRM) had pain and numbness in the breast scar region and/or arm, 50% experienced influences on their daily activities, and 25% reported medium to severe effects, such as paresthesias, edema, strange sensations, and muscle weakness symptoms related to their daily lives. They further pointed out that the incidence of chronic post-treatment pain was higher after conservative surgery than after radical surgery. To determine whether there are different symptoms of physical and treatment-related problems between the two surgical procedures (BCT and MRM), Shimozuma et al[10] studied 227 breast cancer patients in the early stage and found that physical and treatment-related problems experienced by more than 70% women included "tightness of the arm/axilla," "numbness of the chest wall/axilla/arm," "tightness/tenderness in the chest wall (MRM) or in the breast (BCT)," "nausea/vomiting after chemotherapy," "less energy," "decline in recreational/social activities," "difficulty with physical activities," and "difficulty in sleeping," which were frequently reported in the first month after surgery; while a poorer body image and greater disturbance of mood were also mentioned at 1 month and 1 year. An MRM is associated with a significant degree of psychological morbidity related to the loss of the breast, which can be avoided by a BCT. A better body image and sexual functioning have been reported as potential benefits of a BCT.[11]

To date, there have been very few longitudinal investigations of postoperative patients' symptom distress. Previous publications have reported the results through 6,[12] 12,[13] and 24[8] months. Overall, percentages of patients reporting severity and distress were high in the first few months. Therefore, in order to closely evaluate the prevalence, severity, and level of distress in the first month, the present article provides follow-up through the 4 time points of 2 days and 2, 3, and 4 weeks after surgery. This is the first longitudinal study in Taiwan to explore changes in symptom distress in newly diagnosed breast cancer patients during the first month after surgery. It is worthwhile comparing changes in symptom distress in newly diagnosed Taiwanese breast cancer patients during the first postoperative month with other ethnic populations. The research questions of this study are as follows: (1) What is the symptom distress change during first postoperative month in newly diagnosed Taiwanese breast cancer patients (day 2, and at weeks 2, 3, and 4)? (2) What variables are related to symptom distress at these 4 time points?

■ Methods

Participants and Setting

A longitudinal study was used to explore changes in symptom distress in newly diagnosed breast cancer patients during the first postoperative month at the four time points of 2 days and 2, 3, and 4 weeks after surgery. Participants who had no history of cognitive, affective, or mental disorders, were newly diagnosed as having breast cancer, and were older than 18 years were recruited by convenience sampling from inpatient and outpatient units of 2 teaching hospitals in the Taipei area of Taiwan. The initial sample consisted of 48 women who were newly diagnosed with breast cancer. Data for 9 of the original participants were removed because they refused to participate for the entire period. The final sample consisted of 39 patients, with an 83.0% response rate.

Instruments

DEMOGRAPHIC AND MEDICAL CHARACTERISTICS

Demographic and medical information was obtained from a patient's chart and through interviews with the patient. A demographic questionnaire was used to obtain information such as age, marital status, education, religious affiliation, and employment. Demographic characteristics of the subsamples are displayed in Table 1. Medical characteristics included stage of breast cancer, time since diagnosis, operative date, and type of surgery.

SYMPTOM DISTRESS SCALE

The Symptom Distress Scale was first developed to assess the degree of discomfort experienced from cancer-related symptoms, which include nausea frequency, nausea severity, loss of appetite, insomnia, pain frequency, pain severity, fatigue, bowel

Table 1 • Demographic and Medical Characteristics of the Sample ($N = 39$)

Variables	*n* (%)
Age, y	
<40	6 (15.4)
40-50	22 (56.4)
50 and older	11 (28.3)
Marital status	
Married	35 (89.7)
Not married	4 (10.3)
Religious affiliation	
Buddhism	15 (38.5)
Protestant	4 (10.3)
Catholic	2 (5.1)
Taoism	8 (25.6)
None	10 (25.6)
Employment	
Employed	23 (59)
Unemployed or retired	16 (41)
Primary caregiver	
Spouses	22 (56.4)
Parents	4 (10.3)
Child	10 (25.6)
Friend	2 (5.1)
Siblings	1 (2.6)
Stage of breast cancer	
I	17 (43.6)
II	16 (41)
III	6 (15.4)
Type of surgery	
Modified radical mastectomy	30 (76.9)
Breast-conserving treatment	9 (23.1)
Current adjuvant therapy	
Chemotherapy	10 (25.6)
Radiotherapy	2 (5.1)
Not yet	23 (58.9)
Refused	4 (10.2)

patterns, loss of concentration, changes in appearance, trouble breathing, poor outlook, and coughing.[14] Responses were made on a 5-point Likert-type scale ranging from 1 *(no problem with a particular item)* to 5 *(the worst possible problem)*. The SDS has been widely used in studies involving cancer patients, and its reliability and validity have been established.[15–17]

The Taiwanese version of the SDS was translated by Huang.[18] Reliability of the 13-item scale was tested with 20 terminal-stage cancer patients, and the Cronbach (α was .70. Because some studies reported adverse effects following treatment for breast cancer including tightness/tenderness in the chest wall (MRM) or in the breast (BCT), limitations on arm mobility, arm weakness, and numbness in the arm,[9,10,19] we included these 4 items in the SDS in our study. The final full measure contained 17 items and was scored from 17 to 85. Content validity was evaluated by 6 experts, and the Content Validity Index was 0.90. In the current study, the internal reliability at the 4 time points of 2 days and 2, 3, and 4 weeks after surgery were 0.66 to 0.76 and 0.73 to 0.85, respectively.

■ Procedure

After ethical approval was obtained from each hospital, eligible subjects were recruited for this sample. The research assistant contacted all patients and provided a verbal explanation of the study. Respondents were informed that their participation was voluntary, that they would remain anonymous, that they could withdraw from the study at any time without penalty, and that all information would be kept confidential. Each participant received the SDS. Investigators were available on site during the administration of the SDS to answer questions, provide clarification, and encourage respondents to complete all items.

Statistical Analysis

Data were analyzed using descriptive analysis, paired *t* tests, correlation, and repeated-measures analysis of variance (ANOVA). Descriptive data were used to address demographic characteristics, stage of disease, type of surgery, and SDS. *t* tests, correlation, and one-way analysis of variance (ANOVA) were used to determine whether the demographic and medical characteristics of the sample had significant relationships with overall symptom distress. Repeated-measures ANOVA was used to examine changes in SDS score across 4 time points.

■ Results

Demographic and Medical Characteristics

Forty-eight participants completed data for day 2; 43 for week 2; 40 for week 3; and 39 for week 4. Attrition during the study occurred as a result of personal reasons ($n = 6$) or dropping out because of increasing emotional distress ($n = 2$). Of the 39 participants, the mean (SD) age was 48 (9.4) years. Most (89.7%) patients were currently married, and 22 of the patients' primary caregivers (56.4%) were their own spouse. Slightly more than half had a high-school education (54.9%). Most (76.9%) of them received an MRM, with the others (23.1%) receiving BCT. Other information is presented in Table 1.

■ Symptom Distress Over Time

Table 2 presents the 17 items on the SDS arranged in order of the 4 time periods. In a theoretical range of scores from 17 to 85, the mean scores were 31.35, 27.82, 27.69, and 27.79 at each assessment point. At 2 days after surgery, those reported most frequently by the total sample were changes in appearance (2.89 $\pm$ 0.91), poor outlook (2.69 $\pm$ 1.05), and limitations on arm mobility (2.69 $\pm$ 0.73). At 2 weeks after surgery, the most frequent symptoms reported had the same sequence, but a poor outlook had the highest score (3.00 $\pm$ 0.94). At 3 and 4 weeks after surgery, poor outlook and changes in appearance were mainly moderate (mean $>$ 2.5) again.

The mean total SDS score decreased with time (Fig 1). Results of subscale analysis showed 4 kinds of patterns, that is,

Table 2 • Repeated-measures Analysis of Symptom Distress Subscales Over Time After Surgery ($N = 39$)*,†

Items	Mean ± SD				F	Scheffe Comparison
	2 Days	2 Weeks	3 Weeks	4 Weeks		
Changes in appearance	2.89 ± 0.91	2.87 ± 0.80	2.87 ± 0.80	2.94 ± 0.85	0.31	
Poor outlook	2.69 ± 1.05	3.00 ± 0.94	3.33 ± 0.83	3.28 ± 0.91	6.55‡	a > b, c, d§ b > a c > a, b d > a
Limitations on arm mobility	2.69 ± 0.73	2.23 ± 0.62	2.02 ± 0.36	1.89 ± 0.30	28.41‡	a > b, c, d b < a c < a
Tightness/tenderness in the chest wall	2.64 ± 0.81	2.20 ± 0.61	1.92 ± 0.42	1.79 ± 0.46	36.60‡	a > b, c, d
Pain frequency	2.30 ± 0.65	2.10 ± 0.55	1.97 ± 0.36	1.71 ± 0.60	10.67‡	a < c, d b > d c < a d < a, b, c
Fatigue	2.20 ± 0.61	1.89 ± 0.59	2.15 ± 0.77	2.30 ± 0.73	3.28‡	a > b b < a, c, d c > b d > b
Pain severity	2.10 ± 0.64	2.00 ± 0.56	1.58 ± 0.63	1.48 ± 0.64	13.36‡	a > c, d b > c, d c < a, b d < a, b
Coughing	1.84 ± 0.58	1.61 ± 0.59	1.33 ± 0.57	1.20 ± 0.52	21.19‡	a > b, c, d b < a, c, d c < a, b d < a, b
Insomnia	1.82 ± 0.72	1.71 ± 0.55	1.87 ± 0.73	1.94 ± 0.72	1.85	
Arm weakness	1.53 ± 0.55	1.20 ± 0.40	1.12 ± 0.33	1.10 ± 0.30	20.58‡	a > b, c, d b < a, d c < a d < a, b
Numbness in the arm	1.51 ± 0.55	1.35 ± 0.48	1.28 ± 0.45	1.15 ± 0.36	14.39‡	a > b, c, d b < a c > a, d d < a, b, c
Loss of appetite	1.43 ± 0.64	1.46 ± 0.71	1.84 ± 1.03	2.05 ± 1.05	8.52‡	a > b, c, d b < a c > a, d d < a, b, c
Nausea frequency	1.43 ± 0.50	1.02 ± 0.16	1.10 ± 0.44	1.28 ± 0.64	6.76‡	a > b, c, d
Bowel patterns	1.20 ± 0.61	1.05 ± 0.22	1.05 ± 0.22	1.10 ± 0.30	1.62	
Loss of concentration	1.15 ± 0.70	1.02 ± 0.16	1.00 ± 0.00	1.00 ± 0.00	1.70	
Trouble breathing	1.12 ± 0.33	1.00 ± 0.00	1.02 ± 0.16	1.00 ± 0.00	4.07‡	a > b
Nausea severity	1.06 ± 0.33	1.00 ± 0.00	1.00 ± 0.00	1.00 ± 0.00	4.64‡	a > b, c, d
Total	31.35 ± 5.24	27.82 ± 3.27	27.69 ± 3.89	27.79 ± 4.99	14.80‡	a > b, c, d b < a c < a d < a

*Range = 1–5.
†Total range = 17–85.
‡$P < .05$.
§a = 2 days; b = 2 weeks; c = 3 weeks; and d = 4 weeks.

increasing, decreasing, no significant changes, and first decreasing then increasing with time. Figure 2 depicts the distribution of ratings for the 2 symptoms that increased with time. Loss of appetite increased at 3 weeks after surgery and poor outlook increased at 2 weeks. Figure 3 depicts the distribution of ratings for symptoms that decreased with time, including pain frequency, pain severity, coughing, tightness/ tenderness in the chest wall (breast), limitations on arm mobility, arm weakness,

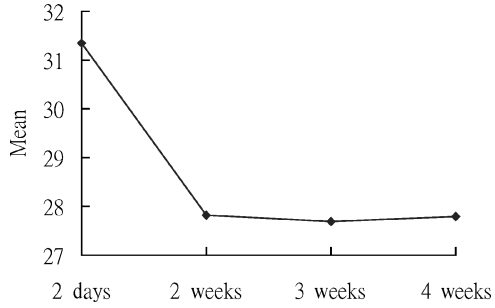

Figure 1 ■ Symptom distress scale total score over time.

and numbness in the arm. Figure 4 depicts the distribution of ratings for symptoms that reported no significant changes during the study month, including bowel patterns, loss of concentration, changes in appearance, trouble breathing, and nausea severity. Figure 5 depicts the distribution of ratings for the 3 symptoms of nausea frequency, insomnia, and fatigue that decreased at 2 weeks then increased at 3 weeks.

Repeated-measures ANOVA was performed for comparing symptom distress scores among between time points (Table 2). A significant time effect was seen for overall symptom distress from 2 days to 4 weeks after surgery ($F_{1,38} = 14.80$, $P < .001$). Seven symptoms showed significant changes over time from 2 days to 4 weeks after surgery: poor outlook ($F_{1,38} = 6.55$, $P < .001$), limitations on arm mobility ($F_{1,38} = 28.41$, $P < .001$), tightness/tenderness in the chest wall ($F_{1,38} = 36.60$, $P < .001$), pain frequency ($F_{1,38} = 10.67$, $P < .001$), arm weakness ($F_{1,38} = 20.58$, $P < .001$), numbness in the arm ($F_{1,38} = 14.39$, $P < .001$), loss of appetite ($F_{1,38} = 8.52$, $P < .001$), coughing ($F_{1,38} = 21.19$, $P < .001$), and nausea frequency ($F_{1,38} = 6.76$, $P < .001$).

■ Variables Influencing Symptom Distress

T tests, one-way ANOVA, and correlations were used to determine whether the demographic and medical characteristics of the sample had significant relationships with overall symptom distress (Table 3). Age was the only demographic variable that had a significant negative correlation with SDS at the first 2 postsurgical points in time, that is, 2 days ($r = -0.50$, $P < .01$) and 2 weeks ($r = -0.31$, $P < .05$). The stage of breast cancer had significant relationships to with SDS only at the first 2 postsurgical points in time, that is, 2 days ($F_{2,36} = 3.21$, $P < .05$) and 2 weeks ($F_{2,36} = 3.51$, $P < .05$). Stage II patients had significantly higher scores of SDS than did stage I patients according to the Scheffe method. Different types of surgery had significant relationships to SDS over time ($P < .05$). Patients who received an MRM had higher symptom distress scores than those who received a BCT, especially at 2 days ($t = 3.58$, $P < .001$) and 2 weeks ($t = 4.67$, $P < .001$) postsurgery (Table 3).

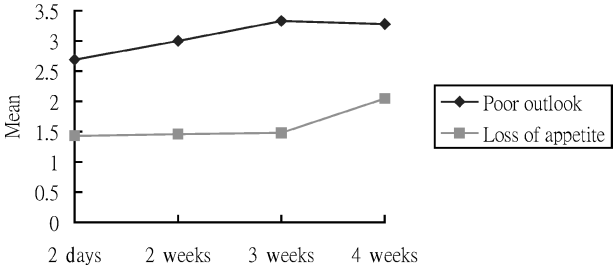

Figure 2 ■ Symptom distress subscale scores that over time.

■ Discussion

In a comparsion with other studies of symptom distress in postoperative breast cancer patients, we not only extend and support previous studies, but also present some of the different results we found. In the current study, changes in appearance, poor outlook, limitations on arm mobility, tightness in the chest wall, pain frequency, fatigue, and pain severity were the top 7 symptoms. These symtoms are similar to those reported in Hoskin's study.[19] Hoskins[19] investigated 93 postoperative breast cancer patients over 1 year with a longitudinal design. Of the total sample, 19% received chemotherapy and 23% received radiotherapy within 1 month after surgery. The most common symptoms at 7 to 10 days after surgery were pain, seroma, and discomfort in the shoulder; however, these had decreased at 1 month. Fatigue, nausea, and vomiting increased between the first and second month, but decreased in the third 3 month. We could discern no other changes at other assessment times (over 1 month) since we only assessed changes for 1 month after surgery.

In a study[10] by Shimozuma et al, about 70% of the postoperative breast cancer patients reported limitations on arm mobility, tightness/tenderness in the chest wall, nausea, and insomnia. Pain and fatigue were also noted after breast cancer surgery in Wyatt and Friedmen's[20] study. They considered that other symptoms related to fatigue could be sleep pattern disruption, pain, upper-body weakness, or changes in family roles. Furthermore, 60% of the sample aged more than 55 and who had completed adjuvant therapies by 6 months after surgery reported higher levels of fatigue and pain than did those in the surgery-only group.[20] The levels of symptom distress differed from those in our study. This could have been due to differences in age and types of treatment. In the current study, ages ranged from 40 to 50 years, and most patients had not completed adjuvant therapy. The mean scores for poor outlook and changes in appearance were the highest during the 4 weeks after the operation. These findings are consistent with the results of the study by Shimozuma et al.[10] They also highlight that breast cancer surgery can greatly impact one's body image. Therefore, clinicians need to assess not only symptoms at the operative site, but also related physical and psychological symptoms, such as those mentioned above.

Data from this study show that age had a significant negative correlation with the SDS score. This correlation indicates that younger patients have higher SDS scores than older patients. This is consistent with results of some other studies.[5,20] The reasons could be that young patients are more

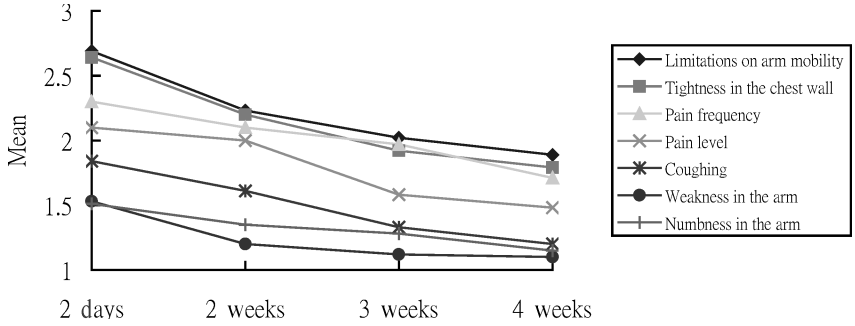

Figure 3 ■ Symptom distress subscale scores that decreased over time.

concerned about changes in their appearance. Surgery can cause changes in physical appearance and scarring. Some younger women may find it difficult to be upbeat when their treatment makes them feel bad or changes how they look. In addition, it may even become a topic of conversation among friends or colleagues. Also, having fewer illness-related experiences may make it hard for patients to accept changes in symptoms, and they adopt a poor outlook when they begin their lives again. Educational levels had no significant correlation with SDS scores. This is consistent with results from studies by Shimozuma et al[10] and Wyatt and Friedmen.[20]

McCorkle and Quint-Benoliel[14] stated that medical characteristics and methods of treatment were the main factors influencing symptom distress. Most participants in our study were at stage I or II. In addition, stage of disease had a significant relationship with SDS only for the first 2 postsurgical points in time. This is consistent with the results of the study by Ehlke.[21] In a discussion of issues in breast cancer surgery, Rowland et al[22] examined women's symptom distress following a lumpectomy, mastectomy alone, or mastectomy with reconstruction. They found that women receiving a mastectomy complained of a greater number of physical symptoms related to their surgeries than did women receiving a lumpectomy. The psychosocial impact of surgery for breast cancer occurred largely in areas of body image and feelings of attractiveness.[22] Shimozuma et al[10] found that 66.7% of the sample with MRM had more severe symptom distress than did those with BCT at 1 month following surgery. Shimozuma et al[10] revealed that patients receiving BCT experienced fatigue associated with treatments and had difficulty planning activities, while those receiving MRM had problems with wound healing or draining. Ganz et al[23] concluded that patients receiving a mastectomy reported more difficulties with clothing and body image than those receiving BCT. That result is consistent with findings in our study. In Taiwan, the choice of the surgery type for treating breast cancer usually depends on the clinician's own decision and opinions.

On account of recent improvements in the instruments used to diagnose breast cancer and from promotion of breast self-examinations, most patients with breast cancer are diagnosed in the initial stage. When those patients receive both surgery and adjuvant therapy, their survival rates may also increase. Thus, BCT has rapidly become a major alternative to a mastectomy. According to the analysis by Fung et al,[11] who compared psychological morbidity after a BCT or mastectomy, Chinese women who received BCT had significantly better body image scores. They had also more freedom in the choice of clothing, felt less upset by the changes in their bodies, and felt more accepted by their partners. In Japan, Noguchi et al[24] found that 5-year survival rates in the BCT and MRM groups were 97% and 87%, respectively, and no breast cancer recurrence was found in the BCT group. Therefore, it is perceived that BCT produces more effective outcomes, namely, a higher survival rate, no recurrence, and less symptom distress.

There are several limitations in this study. First, this sample setting was located in teaching hospitals in northern Taiwan, so these findings may not be generalized to other areas of Taiwan. In addition, the average age of subjects was 48 years old; the majority were 41~50 years or above, so results might not be applicable to younger or elderly. Moreover, some patients had started chemotherapy or radiotherapy during data collection, which could affect patients' symptom distress. For example, 2 symptoms (poor outlook and poor appetite) presented in Figure 2 (SDS increased over time) and three symptoms (nausea, fatigue, and insomnia) presented in Figure 5 (first decreased then increased) could be

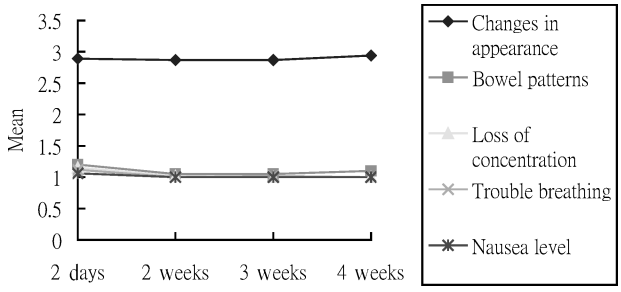

Figure 4 ■ Symptom distress subscale scores with no changes over time.

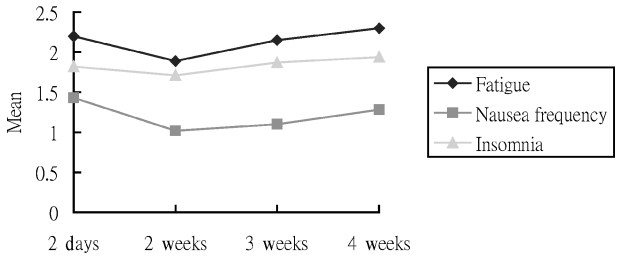

Figure 5 ■ Symptom distress subscale scores that decreased and then increased during the assessment.

Table 3 • Correlations and Differences Between Demographic/Medical Characteristics and Overall Symptom Distress Scores ($N = 39$)

Independent Variable	Mean ± SD				$t/F^{\dagger}$
	2 Days	2 Weeks	3 Weeks	4 Weeks	
Stage of cancer					
Stage I ($n = 17$)	29.11 ± 4.99	26.41 ± 2.57	27.17 ± 3.53	26.41 ± 3.84	$F_{2,36} = 3.21^{*,a}$
Stage II ($n = 16$)	33.43 ± 5.15	29.25 ± 2.97	28.87 ± 3.57	29.31 ± 5.47	$F_{2,36} = 3.51^{*,b}$
Stage III ($n = 6$)	32.16 ± 4.26	28.00 ± 4.51	26.00 ± 5.29	27.66 ± 6.18	$F_{2,36} = 1.49^{c}$
					$F_{2,36} = 1.42^{d}$
Type of surgery					
Modified radical mastectomy ($n = 30$)	32.08 ± 4.74	28.90 ± 2.66	28.50 ± 3.72	28.73 ± 5.00	$t = 3.58^{*,a}$
					$t = 4.67^{*,b}$
Breast-conserving treatment ($n = 9$)	26.55 ± 3.94	24.22 ± 2.48	25.00 ± 3.35	24.66 ± 3.60	$t = 2.52^{*,c}$
					$t = 2.25^{*,d}$

*$P < .05$.
†a = 2 days; b = 2 weeks; c = 3 weeks; and d = 4 weeks.

related to women receiving chemotherapy or radiotherapy. Seven symptoms (limitations on arm mobility, tightness in the chest wall, pain frequency, pain level, coughing, weakness in the arm, and numbness in the arm) presented in Figure 3 (decreased over time) are most likely related to the surgical procedure.

Overall, the most noteworthy findings are the significantly higher levels of worry about changes in appearance and self-concern about their illness in younger patients and the frequent reporting of symptoms in the MRM group. As patients believe that their disease and illness-related treatments will cause great impacts and changes in their lives, clinicians need to determine how patients can be helped to attain physical and psychological equilibrium by discussing choices of an operation and an adjuvant therapy with them. In addition, providing medical information and maintaining their quality of lives are also necessary.

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