Psychosocial and physical outcomes after surgery for breast cancer: a 5-to-6-year follow-up

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KEY MESSAGES

Psychosocial morbidity can persist for many years following breast cancer surgery. Most women make a reasonable recovery. Close supportive social relationships are beneficial, although a residual impact on women's body image and perceived sexuality persists. Residual treatment symptoms are significant barriers to resuming normal life for these women.

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Introduction

Most studies on outcomes after breast cancer surgery focus on disease-free or overall survival and the effectiveness of therapeutic oncology regimens.[1-3] A few studies assess behavioural or psychological dimensions, either the effectiveness of different psychological interventions[4] or the impact of behaviour such as presentation delay on 5-year survival.[5] The 5-year survival for early-stage breast cancer often exceeds 70% and for stage IIIa disease exceeds 50%.[3] The incidence of breast cancer in Hong Kong is increasing.[6] This study aimed to document the prevalence and nature of residual difficulties faced by women who had undergone breast cancer surgery.

Methods

This study was conducted from October 2007 to December 2008. Of 338 women recruited after undergoing breast cancer surgery between 2001 and 2002, 218 women completed the 8-month follow-up and the 5-to-6-year follow-up (Table 1). They were interviewed through telephone after a mean of 69.6 (standard deviation [SD], 5.9) months, using a standardised structured questionnaire to measure psychological distress (Chinese Health Questionnaire [CHQ12]), anxiety and depression (Hospital Anxiety and Depression Scale [HADS]), optimism (Chinese- Life Orientation Test-Revised [C-LOT-R]), and social morbidity (Chinese Social Adjustment Scale [ChSAS]), as well as the arm and breast symptoms subscale from the European Organization for Research and Treatment of Cancer (EORTC) quality-of-life scale, and satisfaction with outcomes. Multivariate regression analysis adjusting for confounders was performed.

Results

Of the 218 women, most reported having arm (lymphoedema) [71%, n=62] or breast (65%, n=76) symptoms, which were most troublesome to younger and working women, despite low symptom intensity. Few women met the criteria for anxiety (5.5%) or depression (6.4%). Compared with levels before surgery, levels of social functioning after surgery were comparable in terms of family relationships, better in terms of friends' relationships, and worse in terms of self-image, enjoyment of social activities, and attractiveness & sexuality (Table 2). Correlations were found between 6-year follow-up outcome variables and 8-month follow-up and baseline scores, including distress and physical symptoms. To adjust for differences in age and other factors (treatment, staging, and demographics), multivariate regression analysis indicated concurrent breast and arm symptom scores, optimism (C-LOT-R), and 8-month post-surgery CHQ12 were associated with 6-year follow-up distress (CHQ12) scores. Anxiety (HADS-A scores) was associated with concurrent optimism, breast symptoms, age, and occupation, and 8-month distress (Table 3). Depression (HADS-D scores) was associated with optimism, occupation, age, and 8-month distress (Table 3). Social morbidity predictors included 8-month levels of each social morbidity category, 8-month distress (family, self-image), disease stage (family), optimism (family, friends, self-image, attractiveness & sexuality), marital status (friends), and baseline treatment decision-making difficulties (sexuality) [Table 4].

Discussion

Despite reasonably good recovery after breast

TABLE 1. Characteristics of the 218 patients

Characteristic	No. (%) of patients
Mean±SD age (years)	56.7±9.1
Marital status	
Single	21 (9.6)
Married/co-habiting	158 (72.5)
Divorced/separated	17 (7.8)
Widowed	22 (10.1)
Education level	
No formal education	13 (6.0)
Primary	81 (37.2)
Secondary	97 (44.5)
Tertiary	27 (12.4)
Total monthly household income (HK$)	
<10 000	61 (28.0)
10 001-20 000	76 (34.9)
20 001-30 000	28 (12.8)
30 001-40 000	20 (9.2)
>$40 000	18 (8.3)
Missing	15 (6.9)
Occupation	
Employed	72 (33.0)
Retired	56 (25.7)
Housewife	84 (38.5)
Unemployed	6 (2.8)
Living arrangement	
Living alone	12 (5.5)
Living with family/significant others	206 (94.5)
Mean±SD time since diagnosis (months)	70.8±6.2
Mean±SD time since surgery (months)	69.6±5.9
Stage of disease	
0	33 (15.1)
I	51 (23.4)
II	107 (49.1)
III	13 (6.0)
IV	1 (0.5)
Missing	13 (6.0)
Type of surgery	
Breast-conserving therapy	53 (24.3)
Modified radical mastectomy	152 (69.7)
Modified radical mastectomy and breast reconstruction	13 (6.0)
Current adjuvant therapy	
Hormonal therapy	45 (20.6)
Chemotherapy	2 (0.9)
Recurrence	
Yes	11 (5.5)
No	204 (93.6)
Missing	2 (0.9)

TABLE 2. Questionnaire scores at the 5-to-6-year follow-up (n=218)

	Possible range of scores	Mean±SD (range)
Chinese Social Adjustment Scale*		
Family relationship	10-50	32.56±4.3 (18.47-48.0)
Body image	7-35	19.80±1.9 (12-25)
Relationship with friends	7-35	22.06±2.6 (12.85-30.38)
Enjoyment of social activities	4-20	12.08±1.4 (4-17)
Attractiveness & Sexuality	5-25	13.66±2.4 (5-21)
Optimism (Chinese- Life Orientation Test-Revised)	6-24	15.75±2.3 (9-24)
Optimism	3-12	8.49±1.4 (5-12)
Pessimism	3-12	7.33±1.4 (3-12)
Psychological distress (Chinese Health Questionnaire)†	0-36	8.41±4.6 (0-23)
Hospital Anxiety and Depression Scale†	0-42	8.08±5.6 (2-29)
Anxiety	0-21	3.66±3.5 (0-16)
Depression	0-21	4.42±2.7 (1-17)
Perceived self-efficacy (General Self-Efficacy Scale)*	10-40	26.42±4.8 (12-40)
European Organization for Research and Treatment of Cancer		
Arm symptoms†	0-100	15.95±16.6 (0-100)
Breast symptoms†	0-75	7.68±7.8 (0-37.5)

* Higher scores indicate better outcome
† Lower scores indicate better outcome

cancer surgery, persistent psychological morbidity may remain. Social morbidity was apparent in body image and attractiveness & sexuality aspects of social function. Relationships with others were generally as good or better (with friends) than those before diagnosis. Treatment decision-making difficulties continued to show an impact on scores relating to perceived sexuality.

Distress at 8-months post-surgery was the most prevalent predictor of psychological and physical symptoms after 5 to 6 years. Distress at 8 months is strongly influenced by treatment decision-making difficulties, pessimistic outlook, poor early (baseline) psychological status, and physical symptom distress.[7] The association between treatment decision-making difficulties, poor early adjustment, and subsequent physical symptom distress is well documented, as is the association with disappointment with outcomes and optimism.[7]

TABLE 3. Multiple regression analysis for predictors of psychological and social morbidity

Variable	β	SE	P value
Psychological morbidity			
Chinese Health Questionnaire (CHQ12)			
Breast symptoms	0.309	0.036	<0.001
Optimism (Chinese- Life Orientation Test-Revised) [C-LOT-R]	-0.295	0.110	<0.001
8-month postop distress (CHQ12)	0.223	0.044	<0.001
Arm symptoms	0.150	0.017	0.013
Self-efficacy (General Self-Efficacy Scale)	-0.129	0.053	0.020
Hospital Anxiety and Depression Scale (HADS): anxiety			
Optimism (C-LOT-R)	-0.256	0.087	<0.001
Breast symptoms	0.216	0.026	<0.001
8-month postop distress (CHQ-12)	0.222	0.035	<0.001
Age	-0.212	0.022	<0.001
Occupation	-0.196	0.400	0.001
Self-efficacy (General Self-Efficacy Scale)	-0.151	0.043	0.011
Type of surgery	-0.135	0.482	0.018
HADS: depression			
Optimism (C-LOT-R)	-0.306	0.070	<0.001
8-month postop distress (CHQ-12)	0.216	0.029	0.001
Occupation	-0.174	0.328	0.004
Age	-0.170	0.018	0.006
Breast symptoms	0.155	0.021	0.013
Type of surgery	-0.133	0.390	0.027
Social morbidity			
Chinese Social Adjustment Scale (ChSAS): family relationships			
8-month family relationships (ChSAS)	0.350	0.062	<0.001
8-month distress (CHQ-12)	-0.188	0.046	0.003
Stage of disease	0.160	0.977	0.011
C-LOT-R	0.153	0.118	0.018
ChSAS: friend relationships			
8-month friend relationships (ChSAS)	0.215	0.060	<0.001
C-LOT-R	0.215	0.073	0.001
Marital status	-0.182	0.372	0.005
Arm symptoms	0.146	0.010	0.025
Occupation	0.144	0.341	0.027
ChSAS: self-image/appearance			
8-month self-image/appearance (ChSAS)	0.248	0.059	0.001
C-LOT-R	0.198	0.055	0.003
8-month distress (CHQ-12)	-0.179	0.024	0.016
Occupation	0.135	0.256	0.037
ChSAS: sexuality			
C-LOT-R	0.211	0.065	0.001
Baseline treatment decision-making difficulties	-0.184	0.032	0.006
8-month self-image/appearance (ChSAS)	0.150	0.074	0.058
8-month sexuality (ChSAS)	0.164	0.074	0.035

Physical side effects interacted significantly with psychosocial state and resulted in high levels of psychosocial morbidity for up to 6 years. Psychosocial distress at 8 months was associated with poorer subsequent family relationships. Early treatment decision-making difficulties were associated with poor perceived attractiveness & sexuality. Types of surgical treatment influenced changes in family, body image, and attractiveness & sexuality domains of the ChSAS in the 8 months following surgery.

Although only 75% of women completed the 5-to-6-year follow-up, a good indication of the experiences of these women was captured. The cross-sectional components of the study make it difficult to disentangle the influences of psychological state from physical symptoms. The interaction between women's psychosocial status and their physical symptoms from treatments persisted for many years following diagnosis. Some of this psychosocial morbidity may have been minimised if women were assisted to adjust before primary treatment. Attention should be paid to helping women who are single and younger and who lack the benefit of a close supportive network of friends and family.

Conclusions

Psychosocial morbidity can persist for many years following breast cancer surgery. Most women make a reasonable recovery. Close supportive social relationships are beneficial, although a residual impact on women's body image and perceived sexuality persists. Residual treatment symptoms are significant barriers to resuming normal life for these women.

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