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Life After Breast Cancer: Understanding Women's Health-Related Quality of Life and Sexual Functioning

By Patricia A. Ganz, Julia H. Rowland, Katherine Desmond, Beth E. Meyerowitz, and Gail E. Wyatt

Purpose: To describe the health-related quality of life (HRQL), partner relationships, sexual functioning, and body image concerns of breast cancer survivors (BCS) in relation to age, menopausal status, and type of cancer treatment.

Patients and Methods: A cross-sectional sample of BCS in two large metropolitan areas was invited to participate in a survey study that included the following standardized measures: the RAND 36-Item Health Survey; the Centers for Epidemiologic Studies-Depression Scale (CES-D); the Dyadic Adjustment Scale (DAS); the Breast Cancer Prevention Trial (BCPT) Symptom Checklist; the Watts Sexual Functioning Questionnaire (WSFQ); and subscales from the Cancer Rehabilitation Evaluation System (CARES).

Results: Eight hundred sixty-four BCS completed the survey. RAND Health Survey scores were as good or better than those of healthy, age-matched women, and the frequency of depression was similar to general population samples. Marital/partner adjustment was similar to normal healthy samples, and sexual functioning mirrored that of healthy, age-matched postmenopausal women. However, these BCS reported higher rates of physical symptoms (eg, joint pains, headaches, and hot flashes) than healthy women. Sexual dysfunction occurred more frequently in women who had received chemotherapy (all ages), and in younger women who were no longer menstruating. In women ≥ 50 years, tamoxifen therapy was unrelated to sexual functioning.

Conclusion: BCS report more frequent physical and menopausal symptoms than healthy women, yet report HRQL and sexual functioning comparable to that of healthy, age-matched women. Nevertheless, some survivors still experience poorer functioning, and clinicians should inquire about common symptoms to provide symptomatic management or counseling for these women.

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BREAST CANCER IS THE MOST common cancer in women, with an estimated 5-year survival rate of 75%.[1] Patients with favorable tumors (less than 1 cm or noninvasive cancers) have an anticipated survival that usually meets or surpasses that of age-matched controls. Breast cancer patients are the most frequent cancer survivors in primary care practice, with a recent prevalence estimate of 1,332 per 100,000.[2] Therefore, it is critical for health care professionals to become familiar with the impact of a breast cancer diagnosis and its treatment on patients' lives—beyond the acute phase of cancer treatment.

Primary breast cancer treatment includes various combinations of surgery, chemotherapy, and/or hormone therapy.[3] Postoperative radiotherapy is used to reduce the risk of local recurrence after breast-conserving surgery (lumpectomy with or without axillary lymph node dissection).[4,5] The multimodal treatment of breast cancer improves survival outcome,[6] but it also contributes to a prolonged period of medical intervention with associated physical and emotional sequelae. The literature describes a wide range of disruptions in day-to-day living because of a breast cancer diagnosis and treatment.[7-11] Many treatment-related physical and psychosocial problems resolve during the first year of follow-up evaluation.[10,12-16] Relatively little is known about the health-related quality of life (HRQL) of long-term breast cancer survivors (BCS).[17-19] Sexual problems occur with considerable frequency in breast cancer patients and extend beyond the acute phase of treatment.[10,12,13,17] The more widespread adoption of breast-conserving surgical treatment (as compared with mastectomy) was expected to diminish the negative impact of treatment on quality of life and sexual functioning. Unfortunately, this goal has not been realized completely. Several prospective studies show no difference in quality-of-life outcomes or sexual functioning for breast cancer survivors according to surgical treatment.[12-14,20,21] However, few studies have examined quality of life or sexual functioning with standardized instruments and/or normative data from reference samples.[13,22]

The etiology of sexual dysfunction in BCS has not been well studied. There are multiple predisposing factors, including preexisting sexual problems and normal age-related changes in sexual functioning.[23-25] Physiologic changes

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induced by chemotherapy and hormone therapy are also important contributors. Induction of premature menopause can result in an estrogen-deficiency state that increases the likelihood of hot flashes, poor vaginal lubrication, and urinary symptoms, which may contribute to sexual dysfunction.[26-29] These symptoms are also a problem for older patients for whom hormone-replacement therapy is discontinued at the time of the breast cancer diagnosis. Furthermore, these symptoms can be exacerbated by tamoxifen adjuvant therapy.[30] Beyond physical factors, Schultz et al[31] suggest that psychologic reactions to cancer can also form the basis for sexual dysfunction in some women with cancer. Sexuality and intimacy are important survivorship concerns for breast cancer patients, yet these issues are often overlooked by health care providers and traditional psychosocial support programs.

This investigation is part of a larger program of research to examine the quality of life, sexual functioning, and late effects of treatment in BCS. A component of the research is the testing of a psychoeducational group intervention program designed to address the sexuality and intimacy concerns of BCS. As there were limited data on the HRQL, sexuality, and intimacy concerns of BCS, we conducted a comprehensive cross-sectional survey of this target population before we began our intervention study. We used a combination of standardized and newly developed measures to explore these issues. Although BCS have been the focus of many psychosocial and quality-of-life studies,[7-15] few prior reports have used instruments with comparison data from healthy women.[17,22,32] Further, in this study, we examined the relationship of age, well-being and functioning, and breast cancer treatment variables, to quality of life and sexual functioning. The results of this study can be used to inform clinicians, researchers, and BCS about the longer-term impact of breast cancer treatment on quality of life and sexual functioning.

PATIENTS AND METHODS

Subject Eligibility and Recruitment

This research was conducted in two large metropolitan centers (Los Angeles, CA and Washington, DC). Women eligible for the study (1) had a past diagnosis of breast cancer (stage 0, I, or II at diagnosis); (2) were between 1 and 5 years after initial breast cancer diagnosis; (3) had completed local and/or systemic adjuvant cancer therapy; (4) were currently considered disease-free and were not receiving cancer therapy other than tamoxifen; (5) had no prior history of treatment of other cancers, with the exception of noninvasive skin cancer and cervical cancer; (6) could read and write English; (7) could provide informed consent; and (8) had no other major disabling medical or psychiatric conditions that would confound evaluation of HRQL.

Subjects were identified and recruited through a variety of mechanisms, as follows: (1) from tumor registry listings (almost all of the Washington, DC and two thirds of the Los Angeles samples); (2) from the offices of surgeons and medical oncologists (computerized listings or through chart review); and (3) from hospital or clinic logs. These practice settings reflected a variety of clinical environments, including National Cancer Institute (NCI)-designated Cancer Centers, staff model health maintenance organizations (HMOs), private community hospitals, group practices of radiation and medical oncologists, and individual surgeons. In designing the subject recruitment, roughly half of the identified subjects were reserved for the second phase intervention study that was planned to start 18 months later. Random selection was used to choose patients from the larger practices for this phase of the research, and the remainder of the patients were reserved for the second phase study. The smaller practices were assigned to either the first or second phase of the research. In the larger practices, all of the women approaching their fifth anniversary since diagnosis were included, with random selection of two thirds of the women approaching their fourth anniversary and half of those diagnosed more recently.

Once the list of potential subjects was determined, a recruitment letter was sent to each BCS. This was written on the physician's letterhead with his or her signature, or on stationery specially developed for the study. The letter briefly described the study and included a response form and postage-paid envelope. The response form asked the BCS if she would be interested in being contacted to learn more about the study, the best time to contact her by telephone, as well as some demographic data (age, marital status, and ethnicity). Women who responded affirmatively were contacted by telephone and were screened for eligibility. The eligible BCS were given more detailed information about the study, including the personal nature of the survey content. If the BCS still wanted to participate, she was mailed a questionnaire and written consent form. Institutional review board approval to conduct this study was obtained at all institutions that participated in the study. BCS who were recruited from the practices of community physicians signed consent forms from either of the primary research sites or, in some cases, signed an institution-specific consent form.

Conceptualization and Measurement of HRQL

HRQL is the subjective evaluation of health and well-being as rated by the survivor herself.[33,34] HRQL is a multidimensional construct that generally includes functional status—performance of self-care activities, mobility, physical activities, and role activities such as work or household responsibilities; disease- and treatment-related symptoms—specific symptoms of disease such as pain or shortness of breath, or the side effects of drug therapy such as nausea, hair loss, impotence, or sedation; psychologic functioning/emotional well-being—anxiety or depression, either primary or secondary to the disease or its treatment, as well as positive affect and well-being; and social functioning—disruptions occurring in the capacity to take part in normal social activities. Sexual functioning, body image, and partner relationships were identified as additional important dimensions in this study population. Sexual functioning refers to interest in sexual activity, as well as desire, arousal, orgasm, and satisfaction. Body image was conceptualized as comfort with one's body and scars related to the surgery. The partner relationship dimension includes communication, affection, consensus, and satisfaction with the relationship.

The survey battery for this study was 60 pages in length and included standardized measures of HRQL, with an emphasis on instruments that had been used in healthy populations of middle-aged and elderly women. Also included were several reliable and valid, cancer-specific instruments or scales, as well as new questions that were designed for the study population. As there were limited data available on sexuality and intimacy in BCS, the survey battery was extremely comprehensive, with redundancy in the measurement of several dimensions of HRQL

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and sexual functioning (Table 1). The results from other aspects of this survey will be reported in detail in forthcoming reports. This report will focus on results from the instruments described here.

The RAND 36-Item Health Survey 1.0

Alternatively known as the Medical Outcomes Study (MOS) SF-36, the RAND 36-Item Health Survey contains eight individual subscales that are part of the three general areas of HRQL.[35,36] The RAND 36-Item Health Survey includes the same items as the MOS SF-36, but the recommended scoring algorithm is somewhat different.[35] Scoring differences between the two methods are noted for the pain and general health scales only; however, despite these differences, correlations of 0.99 are found between the two methods using the MOS panel sample.[35] In this study, we scored the instrument using the RAND method.[35] Each subscale is scored from 0 to 100, with 100 being the most favorable score. The subscales are physical functioning, role function-physical, bodily pain, social functioning, emotional well-being, role function-emotional, energy/fatigue, and general health perceptions.[36] General population norms are available for this instrument.[37]

Center for Epidemiologic Studies-Depression Scale

The Center for Epidemiologic Studies-Depression Scale (CES-D) is a 20-item self-report scale developed for the general population to measure depressive symptomatology over the past week.[38] Normative data are available from community-based samples.[39,40] The instrument has excellent reliability and validity, including use with multiethnic samples.[38] Responses to the CES-D are rated on a four-point scale, and the instrument total score ranges from a minimum score of 0 to a maximum score of 60. A higher score on the CES-D indicates a greater risk of depression, with scores $\geq$ 16 indicating potentially significant levels of depression.[38] The expected frequency of scores 16 or greater in the general population ranges from 21% in community samples[38] to as high as 35% in some primary care settings.[41] The CES-D has been used in recent studies of healthy women participating in large clinical trials.[42,43]

Table 1. Content of Survey Battery

Domain	Content of Instrument/Measures
Background information	Demographics, medical conditions, medications
Women's health history	Menstrual and gynecologic history, breast cancer treatment
Recovery from breast surgery	Prosthesis, breast reconstruction, body image, CARES sexual interest subscale, physical sensations in chest wall, breast and arm, etc
Social support	MOS social support scale
Feelings (past week)	CES-D scale
Everyday problems (past 4 weeks)	BCPT Symptom Checklist
Personal health	RAND 36-Item Health Survey, MOS sleep scale
Feelings (past 4 weeks)	MOS Mental Health Index
Relationships (partnered women)	CARES marital affection and communication subscales, DAS
Relationships/dating (unpartnered women)	CARES dating subscale
Sexual history and functioning	Descriptions of sexual activity, CARES sexual function subscale, WSFQ, other new and adapted sexual functioning and satisfaction questions
Summary questions	Questions addressing existential issues of breast cancer survivorship

Breast Cancer Prevention Trial Symptom Checklist

The Breast Cancer Prevention Trial (BCPT) Symptom Checklist is a 43-item list of commonly reported physical and psychological symptoms (eg, nausea, headaches, vomiting, diarrhea, short temper, and tendency to stay in bed), as well as symptoms that have been associated with menopause (eg, hot flashes, joint pains, forgetfulness, difficulty concentrating, and vaginal dryness) and tamoxifen use (eg, vaginal discharge). This checklist was developed specifically for the BCPT.[42] For the current study, the respondent was asked whether she was bothered by any of the symptoms during the past 4 weeks, with responses ranging from 0 ("not at all") to 4 ("extremely"). In the BCPT, the checklist requires a response of "yes" or "no" with a severity rating that is the same as that used in this study. For the purposes of this analysis, all responses with severity of 0 were categorized as no and those that were 1 to 4 were categorized as yes. The psychometric properties of this scale are under evaluation.

Dyadic Adjustment Scale

The Dyadic Adjustment Scale (DAS) is a self-report marital adjustment scale.[44] The instrument provides four factor subscales: dyadic consensus, satisfaction, cohesion, and affectional expression. The four subscales are added to give a dyadic adjustment score. A total score can be obtained and range from 0 to 151. The reported norm for married couples is 114.8 (SD = 17.8). Low scores indicate distressed marriages, with a score of 100 used as a cutoff value.

Watts Sexual Function Questionnaire

The Watts Sexual Function Questionnaire (WSFQ) is a 17-item, self-report instrument that assesses the major components of the sexual experience, including perception of sex desire (six items), arousal (four items), orgasm (four items), and satisfaction (three items).[45] Responses for each item are measured on a five-point Likert-type scale, with response items ranging from "always" to "never." A total score is generated along with four component scores. When a total sexual function score is calculated, the possible range of scores is 17 to 85, where high scores indicate positive sexual function. Content validity, internal consistency, and test-retest reliability were evaluated and were within acceptable ranges (R.J. Watts, personal communication, 1993). The WSFQ has been used with a variety of chronically ill populations, including patients with cardiac disease, diabetic women, and healthy postmenopausal women.[43]

Cancer Rehabilitation Evaluation System

The Cancer Rehabilitation Evaluation System (CARES) is a self-administered survey instrument that assesses the quality of life and rehabilitation needs of cancer patients.[46,47] The CARES has excellent reliability, validity and psychometric properties.[48] Although the CARES is a generic, cancer-specific quality-of-life measure,[49] extensive normative data are available in breast cancer patients.[10,12,17] The survey battery included the following CARES subscales: body image, clothing, interaction with children, dating, sexual interest, sexual dysfunction, communication with partner, and affection with partner. The subscale scores range from 0 to 4 and represent the average severity score for the items contained within the subscale. The CARES Sexual Summary Scale is composed of the sexual interest and sexual dysfunction subscales, and has severity scores that range from 0 to 4. Because the CARES detects the severity of problems, a higher score indicates more difficulty or severity of problems in that area.

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Statistical Methods

Descriptive statistics were used to examine the characteristics of the samples from the two sites (Los Angeles and Washington, DC) before they were combined for subsequent analyses. Frequencies, cross-tabulations, and mean comparisons were performed to examine potential relationships between patient characteristics and the outcomes of interest. Statistical testing was performed only for a limited number of prespecified hypotheses. Fewer than 50 significance tests were performed. Therefore, P values $\leq .001$ can be viewed as satisfying the most rigorous standards in yielding an experiment-wise error rate of $\leq .05$.

Standard appropriate tests were performed for continuous and categorical variables. The χ^2 was used to compare categorical measures (eg, type of surgery by age category); t tests were used to compare means of continuous measures between two groups (eg, average age of those who did or did not receive chemotherapy); one-way analysis of variance was used to compare means of continuous measures among three or more groups (eg, average age of those in the three surgery/reconstruction categories); and analysis of covariance was used to compare means of continuous measures between groups, adjusting for a covariate (eg, the average CARES Sexual Summary Scale for those who did or did not receive chemotherapy, adjusting for age).

RESULTS

Subjects

Between September 1994 and November 1995, we received completed surveys from 864 eligible BCS (Los Angeles, N = 486; Washington, DC, N = 378). Recruitment letters were mailed to 1,558 potential subjects in Los Angeles and 1,125 in Washington, DC (total N = 2,683 letters mailed). Approximately 7% of the subjects (n = 200) were identified as inaccessible (dead, returned mail), and thus were not available for the study. More women may have fallen into this category, but no further information was available to identify them as such. A second mailing was routinely sent to nonrespondents, but telephone contact was not performed if there was no response to the mailings. The two sites had similar response rates and the recruitment results are combined and shown in Fig 1.

Of those who were invited to participate in the study, there was no difference in the time since diagnosis (3.1 years) for those who returned the response form and those who were either inaccessible or nonrespondents. Overall, about two thirds of the BCS responded to the mailed letter of invitation (n = 1,605; Fig 1). Of those who responded to the letter of invitation, 82% were willing to consider participation in the study (n = 1,324). Table 2 lists information on the respondents and nonrespondents at both phases of recruitment for the demographic characteristics of age, ethnicity, and marital status, to the extent that they were available. At each phase of recruitment, older women were significantly less likely to participate, which yielded a final study sample that was younger than the general population of breast cancer patients. In addition, those who were screened out as ineligible were also significantly older than the final study participants (60.7 years *v* 56.2 years). Nonwhite and unmarried women were less likely to respond to the initial study invitation; however, among those who returned the invitation response form, there were fewer differences between participants and nonparticipants on these characteristics. Among those BCS who were sent the survey booklet, there were no differences in ethnicity, marital status, or age for those who returned a questionnaire and those who did not (data not shown). The final sample of 864 subjects represents a yield of more than 50% of those who responded to the mailed letter of invitation.

Demographic and Medical Characteristics of the Sample

Before we combined the Los Angeles and Washington, DC samples, the demographic and medical characteristics of each sample were examined through cross-tabulations, means, and range scores. A larger proportion of the BCS from Washington, DC were expected to be African American; however, there was uncertainty about whether there would be other demographic or medical differences between BCS from the two geographic areas. The two samples had an equal distribution of white and nonwhite BCS; however, as predicted, the nonwhite populations differed between sites. In Los Angeles, the sample included 11.1% African Americans versus 17.7% in Washington, DC. In Los Angeles, the other ethnic groups included 5.6% Hispanics, 5.8% Asian-Pacific Islanders, and 0.6% others, as compared with Washington, DC, which had 1.9% Hispanics, 1.6% Asian-Pacific Islanders, and 0.8% others. There were no differences in age or length of time in current marital status; however, the subjects from Washington, DC were slightly better educated ($P = .006$) and had significantly higher household incomes ($P = .001$). In terms of medical characteristics, significantly more of the Los Angeles subjects had ever taken hormone-replacement therapy (44% *v* 29%, $P = .001$). There was no significant difference in the frequency of type of surgery between sites. Similar numbers of survivors had received chemotherapy or radiation therapy in the past, and similar numbers were currently receiving tamoxifen or had received it in the past. On average, both samples were surveyed about 3 years since the time of diagnosis. As few significant medical or demographic differences were noted, the two site samples were combined for all further analyses.

Although the HRQL data from the sample are not reported separately according to ethnicity, we examined the sample by ethnicity (white, African American, and other) before their combined reporting. As expected from the epidemiology of breast cancer, the African American women were slightly younger than the white women, and therefore received tamoxifen less frequently. Fewer African American

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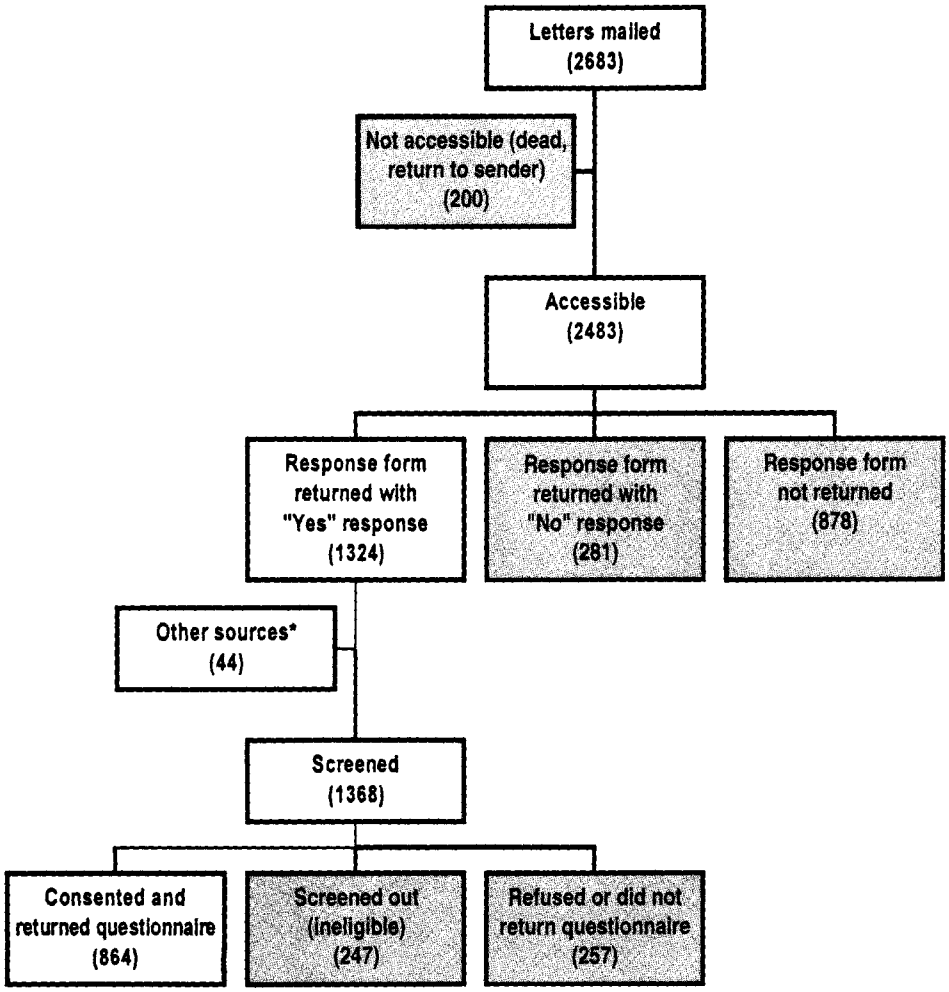

Fig 1. Subject recruitment for the combined sample. Shaded boxes indicate how potential subjects were lost from the final sample. Overall, about two thirds of BCS responded to the initial mailing. Final sample represents a yield of >50% for those who responded to the initial letter of invitation and > one third of those from the potential pool of subjects initially invited. *Patients from a Washington area support group.

women were married compared with white women (52% *v* 64%) and more were divorced or widowed. There were modest differences in income and education among the three groups. Among the ethnic groups, there were significant differences in the type of surgery performed for breast cancer, with fewer African American women receiving breast-conservation surgery than the white or other women (36% African American *v* 55% white, *v* 42% other, $P = .001$). In addition, fewer African American women received reconstructive surgery along with their mastectomy. Review of the means, ranges, and standard deviations among all of the standardized scales otherwise showed few differences among the three ethnic categories (except for body image, which reflected ethnic differences in type of surgery). Therefore, the subsequent analyses are not reported by ethnic group. However, the differences in surgical treatments for African American women are noteworthy.

The mean age of the combined sample was 55.8 years, with a range of 31 to 88 years. Older women with breast cancer are underrepresented compared with the incidence of the disease in the population, which reflects the higher rate of refusal to participate among older women noted earlier. The demographic characteristics of the sample are listed in Table 3. Overall, these BCS were well educated and were moderately affluent, which reflects the known association between breast cancer and higher socioeconomic status. Fifty-eight percent were employed full- or part-time, with 24.5% reporting that they were retired and 10% reporting that they were full-time homemakers. Almost half of the women (48.1%) reported their current or former occupation as managerial or professional. Most of the BCS were married or living with a partner, and this changed as expected with age. Seven subjects (0.8%) reported that they were in a committed relationship with a partner of the same sex.

The medical characteristics of the sample are listed in Table 4. About half of the BCS (51.4%) had received breast-conserving surgery, and there were no important

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Table 2. Demographic Characteristics of Respondents and Nonrespondents

Accessible patients (N = 2,483)						
Response form returned with "YES" response (n = 1,324)		Response form returned with "NO" response (n = 281)		Response form not returned (n = 878)		
Mean age (n = 1,311), years	57.4	Mean age (n = 243), years	65.5	Mean age (n = 772),* years	60.7	
Ethnicity (n = 1,282)		Ethnicity (n = 225)		Ethnicity (n = 341)†		
% White	75.8	% White	67.1	% White	47.5	
% African American	15.8	% African American	8.7	% African American	50.1	
% Other	8.4	% Other	14.2	% Other	2.3	
Marital status (n = 1,236)		Marital status (n = 210)		Marital status (n = 307)†		
% Married	59.6	% Married	59.0	% married	48.2	
% Not married	40.4	% Not married	41.0	% Not married	51.8	
Respondents to initial mailing						
Consented and returned questionnaire (n = 864)		Screened out (ineligible) (n = 247)		Refused or did not return questionnaire (n = 257)		
Mean age (n = 843), years	56.2	Mean age (n = 237), years	60.7	Mean age (n = 254), years	58.2	
Ethnicity (n = 822)		Ethnicity (n = 234)		Ethnicity (n = 249)		
% White	75.6	% White	77.8	% White	66.3	
% African American	14.2	% African American	10.7	% African American	24.5	
% Other	7.2	% Other	11.5	% Other	9.2	
Marital status (n = 803)		Marital status (n = 230)		Marital status (n = 226)		
% Married	61.9	% Married	59.1	% Married	54.0	
% Not married	38.1	% Not married	40.9	% Not married	46.0	

*Data for those not returning response forms were unavailable for some Los Angeles practices.

†Limited to Washington, DC only, since reliable data for those not returning response forms was unavailable in Los Angeles.

differences among the three age groups for this form of surgery. Reconstructive surgery occurred most frequently in the youngest group of women (χ^2 P = .001). The mean age of those who received reconstructive surgery was significantly younger than the other two surgical groups: lumpectomy, 55.9 years; mastectomy, 59.3 years; and mastectomy with reconstruction, 49.4 years (P = .0001).

Almost 40% of these BCS had received adjuvant chemotherapy, with an expected age-related trend in its use. Almost half of the sample was currently taking tamoxifen, ranging from 31.1% of women less than 50 years to 57% of women 60 and older. At the time the survey was completed, approximately 29% of the subjects had received gynecologic surgery that consisted of removal of the ovaries, uterus, or both. Twenty percent of the sample was menstruating at the time of the study, with only about half of the women less than 50 currently menstruating. Twenty-five percent of the sample reported they were menstruating at the time of breast cancer diagnosis, but had stopped by the time of the survey. A small number of respondents (n = 44 or 5.1%) were taking hormone-replacement therapy at the time they completed the questionnaire. The study subjects were queried about a variety of other medical or psychiatric conditions (eg, arthritis, heart disease, hypertension, diabetes, major depressive episodes, and substance abuse). About one third reported having no chronic conditions, and among those who reported a condition, arthritis and hypertension were most common (33.8% and 21.8%, respectively), with approximately 13% reporting some psychiatric difficulties. These conditions were corroborated by patient self-report of medications that were being used, with approximately 12% reporting current use of medication for depression and 8.4% reporting use of medication for anxiety.

HRQL

All of the standardized measures demonstrated high internal consistency and reliability coefficients as used in this study sample. The results from the RAND 36-Item Health Survey and the CES-D are listed by age group in Table 5. There are significant age-related changes in functioning for the physical, emotional, and role functioning-physical scales of the RAND Health Survey (all P = .0001). Functioning declines with age for the physical and role function-physical scales, whereas for emotional well-being, older women function at a significantly higher level than younger women. These age-related findings are consistent with the known behavior of the instrument in general population samples.[50] The RAND profile scores for this sample of BCS are at or above the age-matched population norms for healthy women (Fig 2).[50] The scores of this sample of BCS are also substantially higher than outpatients with chronic conditions included in the Medical Outcomes Study.[35,50] These results are also similar to those reported from another sample of BCS.[17] Importantly, the mean score

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Table 3. Demographic Characteristics of the Sample

Variable	Whole Sample (n = 864)		< 50 Years (n = 293)		50-59 Years (n = 247)		≥ 60 Years (n = 324)	
	No.	%	No.	%	No.	%	No.	%
Ethnicity								
White	669	77.4	214	73.0	192	77.7	263	81.2
African American	121	14.0	49	16.7	31	12.6	41	12.7
Other	74	8.6	30	10.2	24	9.7	20	6.2
Education (n = 860)								
High school or less	125	14.5	24	8.3	31	12.6	70	21.7
Some college	317	36.9	102	35.1	84	34.2	131	40.6
College grad	119	13.8	49	16.8	40	16.3	30	9.3
Postgraduate	299	34.8	116	39.9	91	37.0	92	28.5
Marital status (n = 863)								
Married	538	62.3	199	68.2	155	62.8	184	56.8
Divorced	103	11.9	25	8.6	41	16.6	37	11.4
Widowed	82	9.5	1	0.3	9	3.6	72	22.2
Separated	22	2.6	11	3.8	7	2.8	4	1.2
Single	70	8.1	31	10.6	21	8.5	18	5.6
Committed relationship	48	5.6	25	8.6	14	5.7	9	2.8
Household income (n = 835)								
< $15,000	40	4.8	6	2.1	7	2.9	27	8.9
$15,001 to $30,000	116	13.9	22	7.7	30	12.3	64	21.0
$30,001 to $45,000	131	15.7	45	15.7	26	10.7	60	19.7
$45,001 to $60,000	153	18.3	38	13.3	50	20.5	65	21.3
$60,001 to $75,000	99	11.9	39	13.6	29	11.9	31	10.2
$75,001 to $100,000	120	14.4	46	16.1	40	16.4	34	11.2
> $100,000	176	21.1	90	31.5	62	25.4	24	7.9

on the General Health Perceptions scale in this sample of BCS is one third of a standard deviation above the scores of healthy age-matched women.

In this sample of BCS, the CES-D scores are within the nondepressed range for most of the women, with only 23.1% of the whole sample scoring at or above the cutpoint of 16 (Table 5). This frequency of elevated scores is within the general population normative range cited earlier, and lower than reported in some primary care samples. These results are similar to another sample of BCS reported in the literature.[32] There are significant age-related trends in the mean scores of the CES-D and the frequency of scores at or above 16, with the oldest women (≥60 years of age) reporting the lowest depression scores ($P = .0006$).

Table 4. Medical Characteristics of the Sample

Variable	Whole Sample (n = 864)		< 50 Years (n = 293)		50-59 Years (n = 247)		≥ 60 Years (n = 324)	
	No.	%	No.	%	No.	%	No.	%
Time since diagnosis (mean years)	3.01		2.84		2.89		3.24	
Type of surgery								
Lumpectomy	444	51.4	154	52.6	119	48.2	171	52.8
Mastectomy with recon	151	17.5	82	28.0	52	21.1	17	5.3
Mastectomy	269	31.1	57	19.5	76	30.8	136	42.0
Had chemotherapy (n = 861)								
Yes	326	37.9	164	56.2	102	41.3	60	18.6
No	535	62.1	128	43.8	145	58.7	262	81.4
Had tamoxifen (n = 862)								
Yes, currently	406	47.1	91	31.1	131	53.3	184	57.0
In past	76	8.8	25	18.5	19	7.7	32	9.9
Never took	380	44.1	177	60.4	96	39.0	107	33.1
Menstrual status (n = 863)								
Currently menstruating	173	20.0	151	51.5	22	8.9	0	0
Not menstruating	690	80.0	142	48.5	225	91.1	323	100
Hormone-replacement therapy (n = 863)								
Ever	323	37.4	26	8.9	117	47.4	180	55.7
Never	540	62.6	267	91.1	130	52.6	143	44.3

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Table 5. HRQL Means ± SD Scores

Instrument	Whole Sample (n = 864)	< 50 Years (n = 293)	50-59 Years (n = 247)	≥ 60 Years (n = 324)	P
Rand Short-Form Health Survey*					
Physical functioning	80.3 ± 21.4	87.7 ± 15.9	82.2 ± 20.1	72.2 ± 23.9	.0001
Emotional well-being	75.5 ± 17.5	72.0 ± 18.0	75.7 ± 18.4	78.5 ± 15.8	.0001
Role function, physical	75.8 ± 34.1	82.2 ± 30.1	78.1 ± 32.6	68.2 ± 37.1	.0001
Role function, emotional	78.4 ± 34.6	73.9 ± 36.4	80.2 ± 33.7	81.2 ± 33.3	.02
Social functioning	86.6 ± 19.8	86.1 ± 19.2	85.9 ± 21.0	87.6 ± 19.5	.53
Pain	78.5 ± 20.4	81.3 ± 17.9	77.8 ± 21.3	76.5 ± 21.6	.01
Energy/fatigue	60.5 ± 20.3	59.3 ± 19.5	60.1 ± 22.0	61.9 ± 19.6	.27
General health perceptions	73.3 ± 19.8	74.1 ± 18.8	73.5 ± 21.4	72.3 ± 19.4	.50
CES-D score (n = 858)	10.3 ± 9.4	11.7 ± 10.0	10.7 ± 9.6	8.8 ± 8.3	.0006
% ≥ 16 or greater	n = 198 (23.1%)	n = 83 (28.3%)	n = 61 (24.8%)	n = 54 (16.9%)	.003

*Number of respondents on subscales ranged from 860 to 864.

The frequency of common symptoms among the BCS was examined according to age. Table 6 lists the 10 most commonly reported symptoms in this sample as reported on the BCPT Symptom Checklist.[42] Overall, the mean number of symptoms reported was 14.5. This frequency compares with a mean of 8.9 symptoms in a sample of healthy women of similar age, without breast cancer, and who were not on hormone therapy or tamoxifen.[42] Almost all of the 10 most frequent symptoms (Table 6) were experienced in the preceding 4 weeks by about 50% or more of the survivors in all three age groups. Although not among the 10 most frequent symptoms, problems with weight gain, vaginal dryness, and night sweats were endorsed by more than 40% of the BCS, identifying these as other important symptom concerns in this population of women.

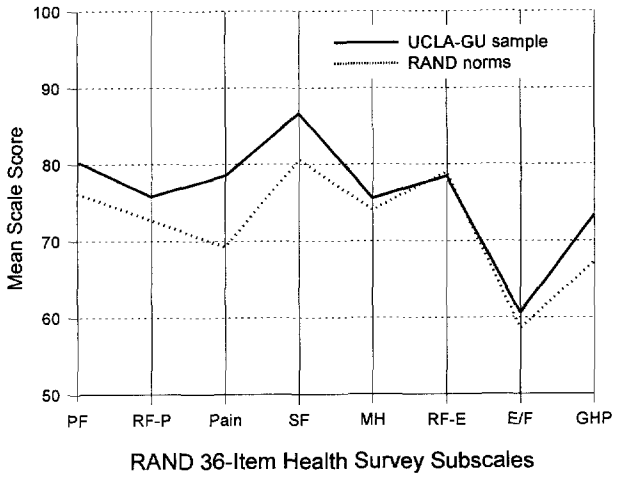

Fig 2. RAND 36-Item Health Survey results of BCS. Comparison to age-matched healthy controls. PF, physical functioning; RF-P, role functioning-physical limitations; SF, social functioning; MH, mental health/emotional well-being; RF-E, role functioning-emotional limitations; E/F, energy and fatigue or vitality; GHP, general health perceptions; UCLA-GU, University of California Los Angeles Georgetown University.

Body Image

In our prior work, we found that patients with a mastectomy had significantly more difficulty with body image and clothing problems than patients who had received breast-conserving surgery.[12] In this survey, body image was examined using the CARES body image subscale. For patients who received lumpectomy, the mean subscale score was 0.53, for mastectomy with reconstruction, the mean score was 1.23, and for mastectomy alone, the score was 1.39 (P = .0001). These findings confirm those in our previous report,[12] with breast-conserved patients having significantly fewer problems with body image than patients with either mastectomy or reconstruction. As for difficulties with clothing (as measured by the CARES clothing subscale), there was no significant relationship to the type of surgery, which contrasts with earlier findings in the first year after surgery.[12] Future reports from this study will provide more detailed information on the adaptation to breast cancer surgery, including the impact of reconstruction (including type and timing of reconstruction) and local breast/chest wall symptoms.[51]

Table 6. Ten Most Frequently Reported Symptoms

Rank	Symptom	Percent of Patients: Whole Sample	< 50 Years	50-59 Years	≥ 60 Years
1	General aches and pains	70	66.3	70.7	72.8
2	Unhappy with body appearance	68.7	75.3	66.0	64.9
3	Muscle stiffness	64.3	58.8	64.6	68.9
4	Forgetfulness	63.9	62.1	64.4	65.3
5	Joint pains	62.3	54.3	63.9	68.2
6	Headaches	59.3	69.5	61.5	48.4
7	Hot flashes	55.3	51.2	78.0	41.8
8	Short temper	53.4	64.0	54.5	43.0
9	Early awakening	51.6	47.1	55.9	52.5
10	Breast sensitivity	51.1	57.0	50.8	45.9

NOTE. Number of respondents ranged from 855 to 860.

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Partner Relationships

Women in partnered relationships completed the DAS and the CARES subscales for communication and affection with partner. All women who were not currently in a partnered relationship completed the CARES dating subscale. Table 7 lists the characteristics of the sample with regard to partner status and includes the scores from these instruments. Overall, 68.6% of the sample of BCS had a partner at the time of the survey, and this varied according to age. The DAS total score falls within the normal range as reported in the literature.[44] There is an age-related trend for more difficulty in relationships of the youngest group of partnered women ($P = .005$, for total score). However, all age groups reported similar rates of satisfaction. The scores on the CARES communication and affection with partner subscales are similar to results from an earlier sample of BCS.[17] In this study sample, the oldest survivors have the least difficulty communicating with their partners ($P = .0003$, in a comparison of all three age groups), with no age-related differences in affection ($P = .06$, in a comparison of all three age groups).

Survivors who were not currently in a partnered relationship were asked whether they were interested in having a significant relationship, with a five-point response scale that ranged from "no, not at all" to "very much." For the purpose of this data presentation, these responses were collapsed into a yes/no response. As is shown in Table 7, 77% of the unpartnered BCS were interested in a relationship. Interest varied according to age group, with more than 95% of women less than 50 years indicating an interest, and 50% of that age group indicating "very much" interest. Overall, these unpartnered BCS expressed substantial concern about dating issues (eg, telling date about cancer, fear, or initiating a sexual relationship), with the most problems reported in women who were less than 60 years of age (see CARES dating subscale, Table 7).

Sexual Functioning

The survey battery obtained information about sexual functioning currently, as well as at the time of diagnosis. Overall, 65.5% of the BCS reported they were sexually active at the time of their cancer diagnosis. (Sexual activity was defined as activities with a partner including kissing, touching, and other intimate contact, including intercourse.) For those who were inactive, in more than half (55%), inactivity was due to not having a partner, and for the remainder a variety of reasons were endorsed. The most common reasons were related to the woman's lack of interest, her partner's lack of interest, or a partner's physical problem that prevented sexual relations. Approximately 71% of the sample reported having attempted sexual activity since the breast cancer diagnosis, and 60% reported having been active with a partner in the past 6 months. This rate of sexual activity is similar to that reported by healthy women of a similar age distribution not on estrogen-replacement therapy.[42,43] The reasons the BCS gave for not being sexually active currently followed a similar pattern to those reported for the time of diagnosis. Approximately 91% of the sexually active women were with the same partner as before their breast cancer, while approximately 8% reported having a new sexual partner.

Data from the sexually active BCS for the two standardized sexual functioning instruments are listed in Table 8. The CARES Sexual Summary does not vary across the three age groups. A three-way comparison of the sex interest subscale is not significant ($P = .20$). Three-way comparisons of the

Table 7. Partner Relationships and Communication

Instrument	Whole Sample (n = 864)		< 50 Years (n = 293)		50-59 Years (n = 247)		≥ 60 Years (n = 324)		P
	No.	%	No.	%	No.	%	No.	%	
Survivors with a partner	591	68.6	230	78.5	169	68.4	192	59.6	
DAS*	113.1 ± 19.4		110.2 ± 20.1		113.6 ± 19.3		116.3 ± 18.3		.005
Consensus	49.9 ± 8.4		47.9 ± 8.7		50.3 ± 8.2		51.9 ± 7.9		.0001
Satisfaction	38.3 ± 7.2		38.2 ± 7.2		38.3 ± 7.4		38.6 ± 6.9		.84
Cohesion	16.0 ± 4.5		15.6 ± 4.5		16.1 ± 4.5		16.4 ± 4.4		.19
Affectional expression	9.0 ± 2.6		8.5 ± 2.6		8.9 ± 2.7		9.5 ± 2.4		.0007
CARES communication*	0.97 ± 1.0		1.08 ± 1.0		1.08 ± 1.0		0.73 ± 0.9		.0003
CARES affection*	0.67 ± 1.1		0.54 ± 0.92		0.74 ± 1.2		0.76 ± 1.1		.06
Survivors without partner	271	31.4	63	21.5	78	31.6	130	40.4	
Interested in a relationship†									
Yes	209	77.4	59	95.2	65	84.4	85	64.9	.001
No	61	22.6	3	4.8	12	15.6	46	35.1	
CARES dating subscale*	1.42 ± 1.3		1.6818 ± 1.3		1.62 ± 1.3		1.18 ± 1.4		.016

*Mean ± SD scores.
†n = 270.

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Table 8. Sexual Functioning in Sexually Active BCS Mean ± SD Scores

Instrument	Whole Sample (n = 516)	< 50 Years (n = 241)	50-59 Years (n = 157)	≥ 60 Years (n = 118)	P
CARES sex summary (n = 504)	1.03 ± 0.86	0.99 ± 0.87	1.06 ± 0.92	1.06 ± 0.75	.71
Sex interest	0.73 ± 0.85	0.81 ± 0.86	0.69 ± 0.88	0.65 ± 0.80	.20
Sex dysfunction	1.32 ± 1.13	1.18 ± 1.13	1.41 ± 1.18	1.47 ± 1.03	.03
WSFQ (n = 494)	56.5 ± 9.3	57.1 ± 9.6	57.0 ± 9.4	54.4 ± 8.2	.03
Desire	18.2 ± 3.6	18.1 ± 3.9	18.7 ± 3.3	17.7 ± 3.5	.13
Arousal	13.3 ± 3.9	14.0 ± 4.0	13.0 ± 4.1	12.4 ± 3.4	.001
Orgasm	13.0 ± 3.2	13.0 ± 3.2	13.5 ± 3.2	12.2 ± 3.3	.006
Satisfaction	11.9 ± 2.0	11.9 ± 2.0	11.9 ± 2.1	12.0 ± 2.1	.86

CARES sex dysfunction subscale and WSFQ show a trend for worsening of sexual functioning with increasing age (both $P = .03$), with similar and more significant trends for arousal and orgasm. Nevertheless, sexual satisfaction does not seem to vary across the three age groups. Comparative WSFQ data on women who participated in the Postmenopausal Estrogen/Progestins Intervention (PEPI) trial (postmenopausal women, 45 to 64 years of age, not on hormone therapy) reveal scores in the same range as reported by these BCS, with similar age-related trends.[43] Finally, these results were supported by a single-item question that asked "Overall, how satisfactory to you is your sexual relationship with your partner?," with responses on a six-point Likert scale ranging from extremely unsatisfactory to extremely satisfactory. For all three age groups, the mean score was not significantly different ($P = .79$) and was close to "moderately satisfactory."

Relationship of Medical Factors to Sexual Functioning

We hypothesized that adjuvant therapy (chemotherapy or tamoxifen) would have a significant impact on sexual functioning after breast cancer, and that an important effect of chemotherapy would relate to the induction of premature menopause in younger women. We first examined the relationship between a history of chemotherapy and sexual functioning in all survivors, using the CARES Sexual Summary Scale as the dependent variable. In this comparison, the mean CARES Sexual Summary Scale score was 1.16 (SD = 0.95) for those who received chemotherapy and 0.85 (SD = 0.87) for those who did not receive chemotherapy ($P = .0001$) (higher score indicates poorer sexual functioning). Since the group that received chemotherapy was significantly younger (Table 4), we controlled for age in the analysis and found that the CARES Sexual Summary Scale score was still significantly worse in women who had received chemotherapy ($P = .0001$). Therefore, it appears that chemotherapy treatment contributes to poorer sexual functioning, beyond the decline normally associated with aging.

Although we found some differences in body image among the three surgery/reconstruction groups, this did not translate into strong effects on sexual functioning. There was a modest difference in the CARES Sexual Summary Scale score by type of surgery ($P = .03$), with lumpectomy patients showing better sexual functioning and the two mastectomy categories being virtually identical. However, when we controlled for whether the patient had received chemotherapy, the effect of surgery on the CARES Sexual Summary Scale score became nonsignificant ($P = .125$).

To explore the effects of chemotherapy further, we hypothesized that the impact on sexual functioning might be related to a change in menstrual status, particularly in the youngest group of BCS. We compared the survivors under 50 years of age by current menstrual status. As shown in Table 4, slightly over half of these women were still menstruating at the time of their participation in this study. Those who were still menstruating were significantly younger than those who were not menstruating (mean age, 42 *v* 46 years; $P = .0001$). The CARES Sexual Summary Scale mean score was 0.79 (SD = 0.77) for those who were menstruating, compared with 1.23 (SD = 0.95) for those who were not menstruating ($P = .006$). Additional analyses comparing menstruating and nonmenstruating BCS less than 50 years of age were performed controlling for age, chemotherapy treatment, and age and chemotherapy treatment together. The CARES Sexual Summary Scale showed significantly poorer functioning among the nonmenstruating survivors who were less than 50 years for all comparisons (all P values $\leq .0003$). However, despite the high rate of premature menopause in women less than 50 years, we could find no difference in their ratings of the RAND General Health Perceptions Scale according to menstrual status ($P = .31$).

Finally, for the women 50 years and older, we examined the impact of adjuvant tamoxifen treatment on sexual functioning. Fifty-five percent of these women were currently on tamoxifen (Table 4), and there was no significant age difference between those who were or were not taking tamoxifen ($P = .64$). The mean CARES Sexual Summary Scale score for those on tamoxifen was 0.98 (SD = 0.95) compared with 0.92 (SD = 0.91) for those who were not on tamoxifen (not significant, $P = .47$). Therefore, in this

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simple analysis, we can conclude that tamoxifen does not appear to make a significant contribution to sexual dysfunction in BCS ≥ 50 years of age. These results are similar to those reported by Schover et al.[52]

DISCUSSION

This report describes the HRQL, symptom status, and marital and sexual functioning of a large sample of BCS who were disease-free and were surveyed on average 3 years after their breast cancer diagnosis. The important findings from this study include the following: (1) the highly favorable level of general health perceptions, and physical, emotional, and social functioning reported by these women, using standardized measures and in comparison to age-matched, healthy controls; (2) the low to average levels of depression; (3) the good quality of marital/partner relationships; (4) the high rate of physical symptoms, especially menopause-related, compared with healthy age-matched women; (5) the similarity of sexual functioning compared with healthy age-matched controls; (6) the greater risk of sexual dysfunction in women less than 50 years who are no longer menstruating; (7) the greater risk of sexual dysfunction in women who have received chemotherapy; and (8) the lack of an effect of tamoxifen on sexual functioning in women 50 years and older with breast cancer. However, an important limitation of the study is that our sample was taken from two large metropolitan areas on the east and west coast of the United States, which may not be representative of all communities of BCS.

While these data were obtained from a volunteer research sample, our findings are compared with the results of standardized measures obtained in other volunteer research samples of healthy women,[36,37,42,43] and are similar to the results from other samples of BCS.[17,32,52] Although the final study sample may not be fully generalizable to the total population of BCS, our response rate is not dissimilar from other studies,[52] and we have been able to describe how the final sample differs from those who were invited to participate (Table 2). Although our recruitment of minority subjects was less effective than for whites on the initial invitation, once a BCS responded, we observed a similar participation rate for white and nonwhite women. Finally, the personal nature of the study survey (eg, sexuality and intimacy) may have biased the response to some extent, as has been noted by others.[52,53]

An additional potential limitation to these findings is that the standardized instruments that we used may not have been sensitive enough to detect subtle findings that might be captured through interview or other qualitative approaches. This could be particularly true for issues related to sexuality and intimacy. For this reason, we conducted face-to-face interviews with a 15% sample of the women who participated in the mailed survey. The analysis of these interviews, when completed, will provide additional supporting information on the sexual functioning of these BCS, as well as provide further insight into sensitive issues that could not be probed in the mailed survey (eg, sexual socialization, sexual practices, and history of rape and abuse).

Overall, the results presented in this report provide good news for BCS, their partners, and their health care providers. Without minimizing the seriousness of a breast cancer diagnosis (eg, the threat to life, and the acute toxicities of surgery, radiation therapy, chemotherapy, or tamoxifen), we can assure most BCS that after the acute phase of cancer treatment they can expect to function well, and exhibit levels of physical, emotional, and social well-being that are similar to age-matched healthy women and are superior to those seen for patients with other chronic diseases. In addition, there appears to be little disturbance in interpersonal function for most women who are in a partnered relationship.

Although no one would request a cancer diagnosis, as others and we have observed,[17,19,32] many women reported important positive aspects to their breast cancer experience. Throughout the open-ended questions in our survey booklet, many women wrote comments such as: "many pluses have come about after the treatment and I consider myself a thriver, not a survivor. . .The small amount of pain I have reminds me I'm fully alive and have two breasts, and am a lucky woman indeed;" "I feel the cancer experience made me take a deep soul-searching into my life and made me face things instead of just letting them continue as usual. It has given me strength to do what I need to do," and "I am at a better place now and I like myself more now than ever before. Everything good has become acutely better and more appreciated. Everything trivial is not paid attention to. The focus of my life is now on what's good and important." These examples demonstrate the ability of these survivors to turn a serious and life-threatening situation into a positive force in their lives.

However, examining group data from a large study can minimize the special difficulties experienced by some women. An example comes from the comments of a 40-year-old, white, divorced BCS, currently on tamoxifen, who responded to our questionnaire 2 years after receiving a mastectomy and adjuvant chemotherapy: "Due to the fact that chemotherapy put me into menopause, I find I have trouble becoming lubricated, have slightly less interest in sex, and experience some pain during and after intercourse. I'm also uncomfortable with my body and my partner seeing my scar and therefore find it harder to relax and enjoy sex."

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As the data in this report suggest, breast cancer, through its treatments, has a profound effect on menopausal symptoms in these survivors. In this sample of BCS, we observed substantial rates of hot flashes, night sweats, and vaginal dryness with rates that are more frequent than in an age-matched comparison group of healthy women.[42] The age-related increase in the frequency of hot flashes for women aged 50 to 59 years is notable, and parallels what has been reported in healthy women, but at a higher frequency.[42] Musculoskeletal complaints were common and were more frequently reported than in a healthy population of women.[42] Finally, "unhappiness with body appearance" is a common complaint, but is not substantially different from the rate reported in healthy women.[42] The latter may be contributed to by weight gain and aging, as much as by the breast cancer surgery.

In our examination of the relationship of menstrual status to sexual functioning, we found that sexual functioning was significantly poorer in women less than 50 years and in those whose therapy had caused them to stop menstruating. In addition, across all age groups, chemotherapy treatment was associated with worse sexual functioning, a finding that is similar to that reported by Schover et al.[52] However, to our surprise, tamoxifen therapy in women 50 years and older was not associated with poorer sexual functioning. In the future, randomized controlled data from the BCPT should provide more accurate information on this question.[42]

These data strongly support the hypothesis that the convergence of menopause with breast cancer, especially in younger women, leads to poorer sexual functioning.[54] This study's findings and the report of a recent NCI-sponsored Conference on Breast Cancer in Younger Women[55] identify women with breast cancer who are less than 50 years old as a particularly vulnerable group (in terms of poorer survival and more severe psychosocial effects). However, there may be other subgroups of patients who have special needs. Examining the impact of a breast cancer diagnosis and its treatment within the larger perspective of women's health across the life trajectory can contribute new insight and understanding.[56] Future analyses from this study that use multivariate modeling may be able tease out more subtle interactions related to menopausal status and breast cancer in this younger group of survivors.[57] Ethnic and cultural factors also require further examination to help identify unique or special issues for white and African American BCS.

In the mean time, clinicians can use these data to guide their follow-up care of women who have had breast cancer. First, clinicians can provide reassurance to their patients that the majority of women treated for breast cancer do well following the completion of their therapy. Such information may be particularly important for the newly diagnosed woman, and for women facing the end of treatment. At the same time, knowing that most BCS adjust well, clinicians should be alert for continuing symptoms of distress in the setting of follow-up care. The results from this study suggest that ongoing symptoms of depression (including problems with sleep, sad mood or tearfulness, irritability, lack of pleasure or interest in usual activities, loss of energy, and poor concentration) or social dysfunction, are not typical in BCS. Therefore, when observed, these problems should be followed up with further questioning or referral for psychological counseling or evaluation as appropriate.

Second, these data highlight the need for physicians to be aware of and inquire about the presence and severity of menopausal symptoms, especially in BCS less than 60 years old. Such patients should be offered treatments that may ameliorate or modify symptoms (eg, clonidine, vaginal moisturizers, and Bellergal-S (Sandoz Pharmaceuticals), with or without additional supportive counseling).[58-60] Future studies may provide information on the safety of hormone-replacement therapy in BCS,[28,61] and this might allow more physiologic approaches to symptom management. As many women are reluctant to raise concerns about intimate functioning themselves, it is incumbent upon the clinician to address this important area of well-being. One approach to this is to inform or remind the woman that her treatments can affect physical functioning and cause or exacerbate menopausal symptoms of vaginal dryness, hot flashes, or loss of desire, and inquire if this has been a problem for her. In this way, the clinician acknowledges the impact of treatment and his or her willingness to address these issues, thus setting the stage for the woman to raise questions that may be important for her.

Third, these data also provide relevant information to share with BCS about the normal effects of aging on HRQL, as well as sexual functioning. For example, many of the problems experienced by BCS are normal concomitants of aging, rather than due to the specific effects of the breast cancer experience. Such "normalizing" of a woman's experience may be particularly important in helping women achieve a new comfort level with body image and functioning following breast cancer.

Finally, clinicians should not be surprised or concerned to hear their patients experience positive effects from the breast cancer diagnosis, since for many women, breast cancer presents both a challenge and an opportunity. Indeed, coming to some understanding of and finding a new sense of meaning in their illness experience may be an important

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aspect of the recovery process for many women. While every woman must be treated as an individual, the outlook for many BCS may be better than expected.

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