Do Community-Based Patient Assistance Programs Affect the Treatment and Well-Being of Patients With Breast Cancer?

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Abstract

Purpose: Patients with breast cancer who need adjuvant treatments often fail to receive them. High-quality, community-based patient-assistance programs are an underused, inexpensive resource to help patients with cancer obtain needed therapy. We sought to determine whether connecting women to patient-assistance programs would reduce underuse of adjuvant therapies.

Methods: We conducted a randomized trial of 374 women (190 assigned intervention [INT], 184 to usual care [UC]) with early-stage breast cancer who underwent surgery between October 2006 and August 2009. After initial needs assessment, individualized action plans were created to connect INT patients with targeted patient-assistance programs; UC patients received an informational pamphlet. Main outcome measures were receiving adjuvant treatment and obtaining help.

Results: High rates of INT and UC patients received treatment: 87% INT versus 91% UC women who underwent

lumpectomy received radiotherapy ($P = .39$); 93% INT versus 86% UC women with estrogen receptor (ER) –negative tumors ≥ 1 cm received chemotherapy ($P = .42$); 92% INT versus 93% UC women with ER-positive tumors ≥ 1 cm received hormonal therapy ($P = .80$). Many women reported needs: 63% had informational; 55%, psychosocial; and 53%, practical needs. High rates of INT patients with needs connected with a program within 2 weeks (92%). At 6 months, INT and UC women used patient-assistance programs at similar rates (75% v 76%; $P = .54$). Women with informational or psychosocial needs were more likely to receive help (relative risk [RR], 1.77; 95% CI, 1.51 to 1.90 and RR, 1.37; 95% CI, 1.06 to 1.61, respectively).

Conclusion: INT and UC patients received high rates of adjuvant treatment regardless of trial assignment. Patients with breast cancer who connect to relevant patient assistance programs receive useful informational and psychosocial but not practical help.

Introduction

Community-based cancer assistance programs for patients with cancer can help patients learn about cancer, tests, and treatments; cope with psychosocial distress; overcome access challenges; and get needed treatment.^{1,2} Programs vary, ranging from those with a narrow focus, providing only counseling or transportation, to those offering a full array of services. Typically staffed by professionals and peer volunteers, programs are often free or low cost and present a great opportunity for patients at risk of foregoing treatment because of insufficient knowledge or challenges to accessing needed care,^{3–8} as well as for hospitals facing fiscal strain and limited ability to support patient navigators. Such programs abound, yet many patients with cancer are unaware of them, and programs are underused.^{2,8–12} There are few data assessing use of these programs or their effects on receipt of needed care among newly diagnosed patients with cancer. We conducted a randomized controlled trial to determine whether connecting women with breast cancer requiring postsurgical adjuvant treatment^{12–15} to high-quality patient assistance programs versus usual care would reduce underuse of needed therapies and meet women's informational, emotional, and practical needs.

Methods

Setting and Participants

We recruited eight inner-city hospitals: four municipal and four tertiary referral centers. Women were recruited within 2 to 4 weeks after definitive surgical treatment for early-stage breast cancer. Women were eligible if postsurgical adjuvant treatment, such as irradiation after lumpectomy or hormonal or chemotherapy for tumors ≥ 1 cm or smaller tumors with poor differentiation or lymphovascular invasion, was recommended. Women who did not speak English or Spanish or could not provide informed consent were excluded. Women were block-randomly assigned to intervention (INT) or usual care (UC) after a baseline survey at the needs assessment. The study was approved by the institutional review boards of all eight participating hospitals.

Study Design and INT

We convened a steering committee of experts in psycho-oncology and assistance for patients with cancer to advise on the needs of patients with breast cancer and relevant re-

sources and to tailor the needs assessment tool and outreach worker training.

We created a resource inventory of high-quality patient-assistance programs that provided information and services related to breast cancer and its treatment, such as psychosocial counseling, help with finances (including insurance and medication), and assistance with transportation. Resources were then classified by category of need addressed (ie, practical/access, information, psychosocial, other), language, and location; the inventory was computerized. An algorithm matched available resources with patient characteristics, needs, and preferences, including geographic location, age, language, preferred media for communication (print, Internet, telephone, face to face), and counseling (peer or professional). This process is detailed elsewhere.⁹

A brief needs assessment tool was created (Appendix, online only), because existing tools were impractically lengthy (> 100 items) for patients undergoing cancer treatment or their caregivers.¹⁶⁻²³

The INT informed, enabled, and reinforced connections to patient assistance programs.²⁴⁻²⁶ The first component of the INT, informing women about programs, was based on prior work attributing low rates of program attendance to women's lack of knowledge that such support was available.^{2,8,10,11,27,28} The second, creating an action plan, was designed to enable and ensure program contact. The third, reserved for women in the intervention arm who still did not connect, was an outreach worker who identified barriers and provided more targeted approaches to enable connection with programs that addressed a broad range of needs.

All patients were surveyed at baseline to measure breast cancer experiences, knowledge, attitudes, and beliefs, followed by a needs assessment (Appendix, online only). Using the algorithm and needs assessment, we identified three high-quality programs to target each identified need. The research assistant then created an individualized action plan with each patient to enable program contact. Action plan and related print materials were mailed. UC patients were sent a New York State Department of Health pamphlet about breast cancer that included resource contact information.²⁹

Two weeks later, we called all patients to confirm receipt of mailed materials and remind them of the 6-month follow-up survey (Fig 1). INT patients were asked whether they connected with the programs specified in their action plan. Participants who had not yet connected with their action plan program were asked if they still needed help. INT women with unaddressed needs were then assigned an outreach worker to help them contact a program. Outreach workers, individuals who worked with women with breast cancer at that hospital, were trained to identify and address barriers that interfered with women's connecting to a patient assistance program.

We surveyed participants at 6 months about their experiences with care, health status (Short Form-12 [SF-12] questionnaire), social support,³⁰ self-efficacy, knowledge, attitudes, and beliefs about breast cancer and its treatment, patient assistance programs contacted, and help received from programs.

Primary Outcomes and Analysis

Primary outcome measures included treatment rates and receiving help for needs. Treatment data, based on medical record abstraction, began in the surgeon's office. Treating medical and radiation oncologists were identified by surgeons and via inpatient and outpatient medical record review. When unable to identify treating oncologists through these means, we asked patients. Comorbidity was measured with the Charlson comorbidity index,³¹ and physical and mental health SF-12 scores were calculated using Hays' algorithms.³² Scale reliability was assessed by calculating coefficient alpha.³³ Reliability estimates were 0.74, 0.64, and 0.60 for self-efficacy, emotional, and instrumental social support,³⁰ respectively.

We determined whether a patient had contacted a program based on the 2-week telephone call. Whether a patient got help for her need was based on the 6-month survey, which asked women who connected with programs to specify the type of help provided that was helpful (eg, information about cancer and its treatment; emotional support; financial counseling; help finding medical care; accompaniment to appointments; help with other life responsibilities, which enabled them to receive treatments, like child care or transportation; or other kind of help).

Summary statistics were used to describe baseline demographics, χ^2 tests were used for categorical variables, and t tests or analysis of variance were used for continuous variables to assess group differences. Intention-to-treat analysis of primary outcomes was carried out to assess effectiveness of the patient assistance intervention. Logistic regression models were fit to assess factors potentially associated with the primary outcomes, underuse of adjuvant treatment and help received. Because rates of program contact were similar in both trial arms, separate analyses were performed to test the effect of patient assistance programs on outcomes. All analyses were performed using SAS software (version 9.1.3; SAS Institute, Cary, NC), with the type 1 error rate fixed at 0.05 (two tailed). We assumed a 25% underuse rate³⁰ and powered to detect a 50% reduction to 12%, requiring 154 women per trial arm.

Results

Participant Characteristics

Consent to participate was obtained from 374 women in need of adjuvant treatment after surgery for new primary, early-stage breast cancer (Fig 1). Those who refused participation were older than enrollees (age 61 v 57 years; $P < .001$), with no difference in stage, hospital, or surgery type. Of women who consented, 190 were randomly assigned to INT and 184 to UC, with minority participants evenly divided between trial arms (Table 1). Women's average age was 56.7 years (standard deviation [SD], 12.0); 79% were high school graduates, and approximately half lived with a significant other.

A large majority of women participated at 6-month follow-up: 333 (89%) of 374; two of the 41 patients lost to follow-up died, seven refused participation, and 32 were unreachable. There were no differences in age, stage of cancer, type of sur-

Figure 1. CONSORT diagram.

ger, insurance, or rate of adjuvant treatment received between those lost to follow-up and those remaining in the study. There was a greater loss to follow-up among black women (black, 19% *v* Hispanic, 11% *v* white, 7%; $P = .07$), albeit not statistically significant.

Needs

The majority of women reported a need (288 [77%] of 374; 79 reported one; 67, two; and 142, three needs); 143 were randomly assigned to NT and 145 to UC. Rates were similar across type of need: 237 (63%), informational; 205 (55%), psychosocial; 197 (53%), practical/access. Hispanic women reported more needs compared with black or white women (2.5 *v* 1.9 *v* 1.1, respectively; $P < .05$) and more in each category (informational: 85% *v* 80% *v* 41%; $P < .001$; psychosocial: 81% *v* 57% *v* 37%; $P < .001$; and practical: 81% *v* 52% *v* 34%; $P < .001$). There were no differences in the type or frequency of expressed needs between trial arms and no differences by demographics or disease stage.

Receipt of Trial Materials

There were no differences between INT and control arms in the number of women reporting receipt of written information: 98% (186 of 190) in INT arm; 95% (175 of 184) in UC arm ($P = .68$). Six UC and three INT patients were unreachable.

Program Connection

The intervention successfully connected 101 (92%) of 110 INT women with needs to a program. Of the 143 INT patients with needs, 23% (33 of 143) reported their needs resolved

without contacting a program. The majority of women with ongoing needs (62% [89 of 143]) used their action plan to make contact; however, 18 INT women did not connect with a program as per their action plan. Sixteen of these 18 women spoke with an outreach worker; 12 of the 16 connected with a program, but four said they “did not have time.” Five patients ceased to participate: one had physical constraints, one was not assigned to an outreach worker, and three were unreachable. There were no differences between women who were and were not referred to an outreach worker in age, race, income, education, insurance, language, living situation (ie, alone), tumor stage, type of hospital, health literacy, or family history. However, those referred did express more needs (mean, 2.4; SD, 0.8 *v* mean, 1.7; SD, 1.2; $P = .01$).

Help Received

A majority of women (76%) reported receiving specific help from the programs, with no difference between INT and UC patients. Only 7% of INT and 4% of UC patients with practical access needs reported receiving help from a program. Higher proportions of minority women reported being helped for identified needs (Hispanic, 61% *v* black, 54% *v* white, 40%; $P = .035$). Help received was associated with type of need; women with informational or psychosocial needs received useful help from programs, whereas those with practical needs did not. Receipt of help did not differ between INT and control arms (Table 2). Because program contact rates were similar between trial arms, we looked to see whether connecting with programs had an effect. Among women who had a need, regardless of trial arm assignment, 79% of those who connected with a patient

Table 1. Baseline Patient Demographic and Clinical Characteristics by Trial Arm Assignment

Characteristic	Intervention (n = 190)		Control (n = 184)		P
	No.	%	No.	%	
Age, years					.594
Mean	56.4		57.0		
SD	11.9		12.1		
Race					.431*
White	84	44	83	46	
Hispanic	59	31	54	30	
Black	36	19	39	21	
Asian	11	6	4	2	
Other	1	1	2	1	
Insurance					.883
Commercial	103	55	106	58	
Medicare	37	20	31	17	
Medicaid	45	24	44	24	
Uninsured	4	2	3	2	
Income < \$15,000 per year (n = 332)†	51	31	52	32	1.000
Education level, years					.725
Mean	14		14		
SD	4.4		4.8		
Married/living with partner	85	45	92	51	.300
≥ 1 comorbid condition	39	21	34	18	.696
Stage					.835
I	108	57	107	58	
II	82	43	77	42	
Surgery					.464
Breast conserving	114	60	103	56	
Mastectomy	76	40	81	44	
Hormone receptor					.126
Negative	46	24	32	18	
Positive	142	76	150	82	
Type of need					
Informational	120	64	117	64	1.000
Psychosocial	97	51	107	58	.178
Practical/access	98	52	99	54	.680
No. of needs					.627
0	47	25	39	21	
1	38	20	41	22	
2	37	19	30	16	
3	68	36	74	40	
Baseline emotional health					.749
Mean	52		52		
SD	10.2		10.9		
Baseline physical health					.095
Mean	50		51		
SD	11.0		9.9		

continued on next column

Table 1. (Continued)

Characteristic	Intervention (n = 190)		Control (n = 184)		P
	No.	%	No.	%	
Emotional social support					.068
Mean	84		87		
SD	16.9		16.6		
Instrumental social support					.818
Mean	72		72		
SD	25.2		27.2		
Self-efficacy					.655
Mean	83		84		
SD	16.2		16.5		
Connected with patient assistance program‡	58	31	45	25	.204

Abbreviation: SD, standard deviation.

* Fisher's exact test performed excluding racial/ethnic group other.

† Not reported by 42 patients.

‡ At baseline survey, before intervention.

assistance program, as compared with 35% of those who did not connect, reported having some or all of their needs met ($P < .001$; Appendix Table A1, online only).

Treatment Received

Rates were high for all types of treatment in both arms (Table 2; INT, 87% *v* UC, 91% for irradiation after lumpectomy; $P = .39$; INT, 93% *v* UC, 86% for chemotherapy for estrogen receptor [ER] –negative tumors; $P = .42$; INT, 92% *v* UC, 93% for hormonal therapy for ER-positive tumors; $P = .80$). Use of therapy was not related to race, education, insurance, stage, comorbidity, or type or number of needs. Multivariable logistic models identified two factors related to treatment use: underuse was greater among older compared with younger women (odds ratio, 2.805; 95% CI, 1.307 to 6.018 for women age ≥ 70 years) and lower for women with more social support (Table 3).

Participation Effect

To assess whether study participation (ie, Hawthorne effect), patient selection (ie, healthy volunteer effect), or both led to an overestimate of treatment rates, we compared trial rates with data from the SEER program for patients diagnosed in the years of our study. We assessed rates of radiation therapy after breast-conserving surgery, because these are more reliable than chemotherapy and hormonal treatment reports.^{34–36} Treatment rates in our trial were significantly higher than the SEER rates for the overall population (88% *v* 69%; $P < .001$), within age groups (≥ 70 years: 79% *v* 61%; $P = .02$; < 70 years: 91% *v* 72%; $P < .001$), and within racial groups (blacks: 93% *v* 62%; $P < .001$ and whites: 85% *v* 69%; $P < .001$).

Discussion

The findings of our study suggest that a large proportion of women with a new breast cancer diagnosis have needs, and a

Table 2. Outcomes: Help Received From Patient Assistance Programs and Treatment Rates by Trial Arm Assignment

Outcome	No. of Patients in Group*	Intervention (n = 169)		Control (n = 164)		P
		No.	%	No.	%	
Program connections and help						
Received information by 2 week-call*	237	117	98	109	93	.131
Connected to program for emotional help*	204	52	54			
Connected to program for practical help*	197	33	34			
Received informational help†	231	89	75	86	76	.5353
Received help from programs contacted or written materials received†	333	98	58	89	54	.5093
Treatments						
RT post-BCS	215	99	87	92	91	.389
Chemotherapy						
≥ 1 cm and HR negative	73	42	93	24	86	.417
≥ 1 cm	312	106	67	107	70	.546
Hormonal therapy						
≥ 1 cm and HR positive	231	102	92	112	93	.802

Abbreviations: BCS, breast-conserving surgery; HR, hormone receptor; RT, radiation therapy.

* Of women with that type of need; based on 2-week telephone call report of information receipt; only intervention patients received specific referrals for psychosocial and practical needs.

† Help for any need based on 6-month survey data

high proportion of women enrolled onto a trial to enable connection with patient assistance programs connect with programs, regardless of trial arm assignment. INT did not result in greater proportions of women initiating contact, connecting

Table 3. Multivariable Models of Help Received From Patient Assistance Programs and of Underuse of Adjuvant Treatment

Variable	Received Useful Help (n = 256)		
	RR	95% CI	P
Informational need	1.769	1.506 to 1.901	< .001
Psychosocial need	1.368	1.061 to 1.612	.0200
Practical need	0.900	0.616 to 1.203	.5220
Intervention	1.095	0.830 to 1.347	.4857
Low income	1.146	0.854 to 1.416	.3263
Variable	Underuse of Adjuvant Treatment (n = 361)		
	OR	95% CI	P
Age ≥ 70 years	2.805	1.307 to 6.018	.008
High instrumental and social support	0.484	0.244 to 0.960	.038
Black or Hispanic	0.588	0.293 to 1.182	.136
Intervention	1.241	0.642 to 2.398	.521
Comorbidity	1.560	0.686 to 3.548	.289

NOTE: Logistic regression models. For Receive Useful Help: c statistic, 0.688; $P < .001$. Age, race, instrumental, emotional, and social support were not significant and were dropped from final model. Intervention, practical needs, and low income (annual income < \$15,000 per year) remained in final model as covariates (n = 256; all patients had informational, psychosocial, or practical needs). For Underuse of Adjuvant Treatment: c statistic, 0.675; $P = .006$. Instrumental social support dichotomized at median value of 80. Baseline physical health, communication with physician, and connected with patient assistance program were nonsignificant and dropped from final model. Intervention, physical health, and race remained in final model as covariates (n = 361; all patients requiring postsurgical treatment).

Abbreviations: OR, odds ratio; RR, relative risk.

with programs, or receiving treatment. Because both INT and control arms received information about cancer treatment and patient assistance programs, it is possible that simply prompting about incoming information on breast cancer treatment and resources may be adequate for most women. Few seemed to require more intensive or targeted INTs. Of note, both treatment rates and use of patient assistance programs were significantly higher than national and previously reported rates,^{2,27,28,37-39} suggesting a possible healthy volunteer bias or Hawthorne effect.

Similar proportions of women in both trial arms reported contact with patient assistance programs. To ethically conduct this study, it was imperative to provide all patients with information about breast cancer and its treatment. Our INT focused on educating women about these programs, because prior work attributed low program attendance to women's lack of knowledge of their availability. Most INT women contacted programs when simply provided with contact information and stimulated to make contact. Few required additional outreach, and there were no distinguishing characteristics of this vulnerable subgroup to inform targeting future interventions. Similarly, prompting and providing UC trial participants with information about programs and treatment was enough to enable them to connect to programs.

However, contact did not assure satisfaction of all needs. Although informational and emotional needs were met for a majority of women (INT, 58%; UC, 54%), receipt of assistance for practical needs was distressingly low. At 6 months, only 6% of women with a practical need reported getting help. Programs face great challenges, particularly in times of economic constraint, to find funds for patients to supplement rent, transportation, or medication payments. This is particularly relevant for minority women, because they are at increased risk of having

practical needs and of losing their jobs within 6 months of breast cancer diagnosis.⁴⁰ It is noteworthy that three quarters of women with needs who contacted programs did get useful help.

Treatment rates were decidedly higher than anticipated. During the time between proposal writing and trial recruitment, one hospital implemented a patient navigator program. It is unlikely that patient navigation resulted in the high treatment rates, because the two hospitals without navigator programs—one municipal and one tertiary referral—had extremely low underuse rates: 7% and 4%, respectively. All hospitals had either some form of patient navigation in place or ongoing relationships with programs such as SHARE or CancerCare. All had tumor boards and breast cancer leadership committed to ensuring multidisciplinary care. The specific causes of improved care are uncertain, because basic structural components that affect cancer care quality did not noticeably change during this timeframe.⁴¹⁻⁴³

Despite national trends toward improved treatment rates,^{37-39,44} SEER data for the years of our study show significantly higher underuse rates compared with our findings (31% *v* 12%). It is unlikely that this discrepancy is solely the result of SEER underreporting, because the observed is greater than the expected rate difference.⁴⁵ We believe this difference represents a healthy volunteer bias or Hawthorne effect inherent in patients who enroll onto clinical trials. In fact, women who refused to participate were older—the group at greater risk of underuse. The extremely low rates of underuse point to a gap in what is considered acceptable for a randomized clinical trial—namely, the absence of a base rate, a measure of the proportion of women receiving necessary adjuvant treatment. Indeed, a review of records might show no benefit for booklet alone and perhaps benefit for the more complete intervention. We were unable to determine whether treatment rates in the participating institutions differed between study participants and nonparticipants, because all IRBs required patient consent to review medical records, and nonparticipants did not provide consent. Thus, it is impossible for us to exclude a Hawthorne effect or selection bias among our study participants. Until base rate data and more complex designs are available, and IRBs are responsive to these challenges, the value of clinical trial data may be of limited use in evaluating the efficacy—let alone the effectiveness—of behavioral interventions.⁴⁶

The limitations of this study include similar rates of contact with patient assistance programs—our intervention of interest—by INT and UC participants, accompanied by similar postsurgical treatment rates. The study was conducted in New York City teaching hospitals, thus limiting generalizability. However, participating hospitals varied in size, volume, populations served, and fiscal structure. This was an effectiveness—not an efficacy—study, so we did not attempt to control the content of interactions of patient assistance programs with our patients, nor did we interact with or attempt to influence existing programs at the participating hospitals. We conducted our survey in English and Spanish; findings may not apply to

women with limited proficiency in these languages. The number of women who at 6 months recalled receiving written information was similar between INT and control patients (75% *v* 76%; *P* = .54) but was significantly lower than the 95% recall at 2 weeks. Because we did not directly refer control patients to programs, we did not assess their connections at 2 weeks and so were unable to determine whether short-term connections differed between the trial arms, an important limitation given the decline in recall seen among INT patients. We asked women what type of useful help they received, such as help with information, psychosocial support, transportation, finances, or other. We did not ask for additional details about their needs or help received. Importantly, 23% of women had their needs resolved within 2 weeks without program connection. This quick resolution suggests a changing pattern of needs in recently diagnosed patients with cancer, who may require a more tactical needs assessment.^{47,48}

What does this study say about the effectiveness of high-quality, community-based patient assistance programs? Although these programs can provide patients with cancer with resources and support beyond those provided by hospitals at little to no cost to the institution, they do not affect rates of treatment, because treatment rates are high. They can provide informational and psychosocial help but are limited in addressing practical access challenges. Whether such programs would have stronger effects on treatment rates in populations with differing levels of need and lower treatment rates is unknown. In the interim, matching women to programs that target resources most accurately and efficiently can resolve informational and psychosocial needs.

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Appendix

To identify practical/access needs:

“Sometimes women are concerned with the way they are going to pay for and get to treatment for their breast cancer. Are these things you would like to know more about?”

“Do you need help getting medical coverage or insurance, or getting your insurance to cover the cost of your treatment?”

To identify informational needs:

“Sometimes, women need help understanding what breast

cancer is and how it’s treated. Would you like more information about breast cancer and treatment?”

To identify psychosocial needs:

“Sometimes, women are concerned about what it means to have breast cancer or how to deal with a breast cancer diagnosis. Is this something that concerns you?”

“Would you be interested in finding out about organizations that provide support to individuals and groups, or offer support groups or counseling?”

Table A1. Characteristics and Outcomes of Patients Using Patient Assistance Programs*

Characteristic	Patient Assistance Program				P
	Yes		No		
	No.	%	No.	%	
Total patients	110	33	223	67	
Age, years					.304
Mean		55.7		57	
SD		11.6		11.9	
Race					.882
White	50	45	105	47	
Hispanic	34	31	67	30	
Black	20	18	41	18	
Asian	6	5	8	4	
Other	0	0	2	1	
Insurance					.191
Commercial	58	53	133	60	
Medicare only	17	16	44	20	
Medicaid	32	29	43	19	
Uninsured	2	2	3	1	
Low income (< \$15,000 per year)	33	33	52	27	.344
Education level, years					.354
Mean		14.4		13.9	
SD		4.5		4.5	
Married/living with partner	44	40	117	53	.035
Stage					.479
1	60	55	132	59	
2	50	45	91	42	
Type of need					
Informational	73	66	137	61	.400
Psychosocial	73	66	110	50	.005
Practical/access	66	60	111	50	.082
No. of needs					.136
0	19	17	58	26	
1	22	20	50	22	
2	17	15	37	17	
3	52	47	78	35	

continued on next page

Table A1. (Continued)

Characteristic	Patient Assistance Program				P
	Yes		No		
	No.	%	No.	%	
Baseline emotional health					.452
Mean		52		53	
SD		10.6		10.1	
Baseline physical health					.781
Mean		51		51	
SD		10.7		9.9	
Emotional social support					.319
Mean		81		83	
SD		19.6		17.9	
Instrumental social support					.574
Mean		72		73	
SD		26.7		24.0	
Self-efficacy (sd)					.431
Mean		83		81	
SD		16.9		19.7	
Treatments received					
RT post-BCS (n = 189)	52	87	116	90	.620
Chemotherapy					
≥ 1 cm and HR negative (n = 64)	17	85	40	91	.668
≥ 1 cm (n = 279)	65	68	126	68	1.000
Hormonal therapy (n = 209)	64	88	123	92	.315
6-month emotional health					.412
Mean		49		50	
SD		11.1		10.4	
6-month physical health					.674
Mean		46		46	
SD		11.2		11.1	
Useful help received (n = 333)	87	79	78	35	< .001

Abbreviations: BCS, breast-conserving surgery; HR, hormone receptor; SD, standard deviation.

* Analysis based on use of programs, not intent to treat.