

Senior Peer Counseling by Telephone for Psychosocial Support After Breast Cancer Surgery: Effects at Six Months

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Despite an almost 7% decrease in rates of breast cancer from 2002 to 2003 (American Cancer Society [ACS], 2011), breast cancer remains a major public health issue in the United States and internationally. Older age is a risk factor for cancer: More than 50% of the almost 288,000 new cases of invasive and noninvasive breast cancer were projected to be diagnosed in women aged 50 years and older in 2011 (ACS, 2011). By 2040, an estimated one in five Americans will be aged 65 or older (U.S. Administration on Aging, 2011).

A lack of tangible and emotional support resources is problematic for any patient with breast cancer, particularly older adults. Limitations in functional or daily living activities increase significantly in cancer survivors aged 65 and older, with transportation, memory, and mobility becoming more common limitations (Institute of Medicine, 2008). Those factors and other social limitations may be preexisting or arise with cancer treatment. In addition, older adults are at greater risk of social isolation, a factor known to be associated with poorer outcomes in cancer (Kroenke, Kubzansky, Schernhammer, Holmes, & Kawachi, 2006).

Many patients say that when the flurry surrounding the diagnosis is over, family and friends go back to their routines and patients often are left alone to process the next steps. Several days may pass between a surgical appointment and the next oncology consultation. Advanced practice and staff nurses in ambulatory care cancer settings usually are not able to maintain continued proactive contact during that time. Patient navigators may help provide continuity of support during the time period, and breast cancer peer support programs, such as the American Cancer Society's Reach to Recovery program, can provide critical support (Macvean, White, & Sanson-Fisher, 2008). Established breast cancer peer support programs focus more on information sharing about the diagnosis or treatment and resource connections (e.g., support groups, tangible resources such as bras and prosthesis). The purpose of the current study

Purpose/Objectives: To evaluate the efficacy of senior peer counseling by telephone for supplemental psychosocial support of older women after breast cancer surgery.

Design: Experimental, randomized block, longitudinal.

Setting: A community-based senior service agency and a community hospital-based breast surgical oncology practice in an urban area of California.

Sample: 142 women newly diagnosed and scheduled for surgery for stage 0–III breast cancer (\bar{X} age = 61.8, range = 50–94).

Methods: Participants were stratified by age and randomized to receive telephone calls from a peer counselor (a) once per week for five weeks beginning within 72 hours postsurgery, (b) once weekly for five weeks beginning six weeks postsurgery, and (c) by request. Assessments were conducted before surgery, postintervention, and six months after surgery. Questionnaires included the Hospital Anxiety and Depression Scale, the Interpersonal Relationship Inventory, and the Brief COPE.

Main Research Variables: Anxious mood, social support, and coping by seeking instrumental support.

Findings: At six months, significant main effects of age were noted for social support, fear of recurrence, and resource use. Significant independent effects of age and intervention were noted for coping by seeking instrumental support. After controlling for age, a significant interaction effect of intervention and time was observed for coping by seeking instrumental support.

Conclusions: Peer counseling may affect instrumental support seeking and appears to be differentially received by age group. Additional study is needed to better understand who benefits most and how from peer counseling.

Implications for Nursing: Trained senior peer counselor volunteers, supervised by a skilled clinical team, may be a useful adjunct in addressing psychosocial needs of women after breast cancer surgery.

was to evaluate the efficacy of senior peer counseling by telephone for ongoing, though short-term, supplemental psychosocial support of older women after breast cancer surgery.

Literature Review

Psychosocial Impact of Breast Cancer

Previous studies have suggested that 20%–40% of patients with breast cancer experience psychosocial distress at some point (Hewitt, Herdman, Holland, & National Cancer Policy Board, 2004). Certain clinical, sociodemographic, psychosocial, and disease-related factors have been linked with psychological distress, including age, gender, socioeconomic status, advanced disease, functional status, uncontrolled symptoms, coping responses, family social support, community resources, and culture (Hewitt et al., 2004; Surbone et al., 2010). Treatment-related factors, such as chemotherapy and the use of tamoxifen, also have been linked to psychosocial distress in patients with breast cancer (Akechi, Okuyama, Imoto, Yamawaki, & Uchitomi, 2001). Even in the presence of psychosocial distress, only 6%–10% of patients will seek professional mental health services (Hewitt et al., 2004). Factors may include time, stigma (Center for Mental Health Services & Substance Abuse and Mental Health Services Administration, 2005; Freeman & Ross, 1995; Hayes & Baginski, 1992; U.S. Department of Health and Human Services, 1999), inadequate insurance coverage (Hayes & Baginski, 1992), absence of significant distress (Figueiredo, Fries, & Ingram, 2004), or lack of knowledge or transportation. Patients with greater mood disturbance, depressive symptoms, and who are unpartnered or who have limited social support in the year after surgery are more likely to continue to experience distress during long-term follow-up (Andrykowski, Lykins, & Floyd, 2008; Carver et al., 2005; Carver, Smith, Petronis, & Antoni, 2006). Psychosocial support interventions improve psychological well-being (Hewitt et al., 2004; Institute of Medicine, 2008); however, few studies have addressed the effectiveness of emotional support for older breast cancer survivors, particularly during the stress-filled time between breast cancer surgery and initiation of adjuvant treatment (Ganz et al., 2003; Institute of Medicine, 2007; Kroenke et al., 2004, 2006; Yoon et al., 2008). Some studies suggest that older women may experience poorer physical and psychosocial quality of life than younger women, irrespective of long-term effects of treatment (Ballinger & Fallowfield, 2009; Perkins et al., 2007; Robb et al., 2007; Sammarco, 2009).

Psychosocial Support by Telephone

An emerging body of evidence is exploring telephone support interventions by professional and lay providers for individuals with chronic conditions, including cancer. Telephone-based interventions are used in healthcare research because they have the potential of providing greater accessibility to patients when compared to face-to-face interventions (Dale, Caramlau,

Lindenmeyer, & Williams, 2008). At the time of the current study's initiation, only two studies were identified in the literature, each exploring the effectiveness of professional telephone counseling in breast cancer (Coleman et al., 2005; Sandgren & McCaul, 2003). Others studies have subsequently been published and include either professional or lay providers (Badger et al., 2005; Beaver et al., 2009; Beaver, Williamson, & Chalmers, 2010; Chamberlain Wilmoth, Tulman, Coleman, Stewart, & Samarel, 2006; Giese-Davis et al., 2006, 2008; Marcus et al., 2010; Salonen et al., 2009; Sandgren & McCaul, 2007).

Professional support by telephone: Coleman et al. (2005) tested the effectiveness of a telephone social support and education intervention administered by oncology nurses to promote emotional and interpersonal adaptation after breast cancer surgery. Patients randomized to the intervention group received 13 months of telephone support and an education and resource kit; control group participants received the education and resource kit three months after surgery. No statistically significant differences were noted between groups in outcomes of cancer-related worry, overall well-being, mood, relationship quality, loneliness, or symptom distress. Through follow-up telephone interviews of a subset of those patients, Chamberlain Wilmoth et al. (2006) found that slightly more patients in the intervention group than the control group reported improvements in attitude and relationships with their spouse. Sandgren and McCaul (2003, 2007) tested the effectiveness of health education or emotional expression telephone therapy interventions delivered by oncology nurses versus standard care (nurse help lines) in patients within three months of diagnosis. The health education recipients reported higher levels of perceived control than those in standard care one month after the intervention, and greater knowledge and lower perceived stress six months after the intervention than emotional expression or standard care recipients. Overall quality of life and mood improved over time and were not affected by either intervention.

Badger et al. (2005) demonstrated the effectiveness of a telephone interpersonal counseling intervention, delivered weekly for six weeks by psychiatric mental health clinical nurse specialists, in improving depression, negative and positive affect, and stress in patients with breast cancer. In a randomized equivalence trial, Beaver et al. (2009, 2010) compared the effectiveness of in-person versus telephone long-term clinical follow-up by nurses post-treatment. Primary outcomes were anxiety, information needs, satisfaction, and diagnostic tests ordered. Patients in the telephone follow-up group who were foregoing clinical examinations reported higher levels of satisfaction with no difference in anxiety compared to the in-person group receiving examinations. Salonen et al. (2009) explored the effectiveness of a telephone support and information intervention

delivered by a physical therapist one week after breast cancer surgery. The intervention group showed significantly better body image, worried less about the future, and had fewer postoperative side effects compared to the control group. In addition, Marcus et al. (2010) conducted a randomized, controlled trial of a 16-session, 12-month psychoeducational telephone counseling intervention provided by master's-level psychosocial oncology counselors beginning at treatment completion. Intervention effects were demonstrated for measures of sexual dysfunction and personal growth, and all participants showed decreased distress and depression over time. However, when cutpoints for measures of distress and depression (indicators of potential need for clinical referral) were considered, the intervention group showed significantly greater reduction in distress and depression.

Lay support by telephone: Dennis (2003) defined lay peer support in health care as consisting of emotional, appraisal, and informational assistance by another who shares similar characteristics (e.g., age, health concern, stressor) and personal experience. A variety of terms such as *health advocate*, *peer navigator*, *patient navigator*, *lay advisor*, *peer coach*, *peer advisor*, and *peer counselor* are used to describe those individuals. Dennis (2003) categorized such providers based on the extent of training, with natural lay helpers having minimal training and paraprofessionals having extensive training.

Telephone support interventions by lay peer support providers in several medical conditions have shown mixed results (Dale et al., 2008). In the breast cancer studies described here, lay providers completed a training program specific to the study. Gotay et al. (2007) tested the impact of a brief (one month) telephone counseling and information intervention delivered by other breast cancer recurrence survivors on psychological distress in patients with recurrent breast cancer. Most patients had four sessions and content included physical support, social support, stress management, and existential concerns. No statistically significant differences were found three months postintervention between the intervention and control groups, and persistent distress was found at six months. Giese-Davis et al. (2006) conducted an observational study of a peer counseling intervention in a small sample of patients newly diagnosed with breast cancer. The peer counseling was delivered by peer navigators, defined as long-term breast cancer survivors (an average of 52.2 months postdiagnosis), and included weekly emotional support, information provision, and personal sharing of experiences. The majority of contacts were by phone and the average duration of contact was six months. Significant improvements were found in trauma symptoms, emotional well-being, cancer self-efficacy, and desire for information on resources. A subsequent study conducted by the investigators found that peer counseling was effective in improving quality

of life (Giese-Davis et al., 2008). A related study by the same research team suggested potential added benefits from peer counseling with married or partnered breast cancer survivors, and potential greater risk of distress in unpartnered women (Wittenberg et al., 2010).

In summary, several studies have demonstrated that telephone support is feasible and offers benefits to patients with cancer when offered by lay or professional providers. Outcome measures vary and include self-efficacy, distress, mood, quality of life, and knowledge. No studies were found testing the use of well-trained senior peer counselor volunteers (those selected based on their ability and training to provide paraprofessional peer-to-peer counseling for their age-matched older adult peers and not having a personal history of breast cancer [Freeman & Ross, 1995]) in providing emotional support to older patients with breast cancer.

Senior Peer Counseling

The older a person gets, the more likely he or she is to have had life experiences in common with other older adults. Emotional issues and coping with stressful events, such as personal loss (e.g., changing abilities, relationships, death, divorce), retirement, comorbid and chronic illnesses, and life-threatening acute illness may be similar. Becker and Zarit (1978) found that a training model could prepare older adults to be skilled in expressions of empathy and warmth in the provision of counseling support to their older adult peers. A peer counseling training manual for older adults was first published in 1978 by Alpaugh McDonald and Haney (1997). The Center for Healthy Aging (now WISE & Healthy Aging [WHA]), a community-based senior service agency, first began training senior peer counselors in 1977 as a means of addressing mental health needs of older adults. The *Peer Counseling for Seniors. A Trainer's Guide* (Freeman & Ross, 1995), which has been used to train senior peer counselors in the United States and internationally, provided the foundation for the study intervention. Conceptually, senior peer counseling is based in part on person-centered counseling (Rogers, 1961). Senior peer counseling provides understanding and constructive support during times of crisis or transitions. It involves nondirective interaction and active listening to establish trust (Crane-Okada, Freeman, Ross, Kiger, & Giuliano, 2010). Senior peer counseling is a relationship, often long-term, between two older adults: the paraprofessional counselor and the patient. Professionally trained volunteers provide supportive counseling while under the close supervision of mental health professionals (Freeman & Ross, 1995). The relationship is that of a peer versus one of authority as in traditional counseling, and comparable to professional therapy in ethical and legal obligations such as confidentiality, potential abuse, or self-harm (Freeman & Ross, 1995). The goal of

senior peer counseling is that peer counselors, usually through one-on-one, face-to-face interactions, will help community-dwelling older adults to feel accepted, understand their feelings, and discover their own answers to issues or concerns surrounding a major life transition or crisis. Senior peer counselors can help address such issues as social isolation, family over- or underinvolvement, aging and loss, self-efficacy and self-advocacy as a healthcare consumer, and general emotional support through relationship. A senior peer counselor is present in an authentic, nonjudgmental way. The focus is on emotional support rather than information giving (Crane-Okada et al., 2010).

Although community-based resources are useful adjuncts of support for many patients, community resource providers often do not have a close working relationship with the healthcare team in an individual patient's care. That can lead to misunderstandings and sometimes a reduction in healthcare providers' willingness to use such resources. It was important that the collaborative training and supervision between the clinical and the community settings in this study would encourage implicit respect between healthcare team members and peer counselors and, in turn, support patients. Information support was not emphasized because specific information about breast cancer, treatment, and recovery was provided in depth by the healthcare team, was widely available through many sources, and referrals to Reach to Recovery for breast cancer peer support were part of the routine preoperative care in the setting.

Methods

In partnership with WHA, the authors developed and initiated an intervention of senior peer counseling by telephone for psychosocial support supplemental to support provided by the surgeon, RNs, and Reach to Recovery for women aged 50 and older with breast cancer as they transition from surgery to the next treatment. Telephone rather than in-person counseling was employed because it allowed service provision regardless of a patient's geographic location. Timing of the intervention and the effects on anxious mood, perceived social support, and coping by seeking instrumental support were examined. Observations of fear of recurrence and resource use also were made.

Sample and Setting

The study protocol and informed consent were approved by the institutional review board at John Wayne Cancer Institute at Saint John's Health Center. Women were recruited from the private practice of breast surgical oncologists based at a community hospital affiliated with a cancer research institute in the Los Angeles, CA, area. Staff RNs provided preoperative education and resource

referral, including a referral to the Reach to Recovery program. Once surgery was completed, patients returned to their surgeon in one to six months. Women were eligible to participate if they were 50 years of age or older, newly diagnosed, scheduled for surgery for clinical stage 0–III breast cancer, and could read and write English. Staff RNs and the surgeons assisted the principal investigator and research nurse with recruitment. Of 322 screened as eligible, 44% (N = 142) were enrolled. A total of 150 women declined the study for reasons such as not needing support, not wanting phone calls, wanting to simplify their breast cancer experience, no interest, or competing demands on their time. Fifty percent of eligible women aged 50–64 and 36% of eligible women aged 65 and older were enrolled. Significantly more eligible women aged 65 and older declined to participate ($p < 0.02$). Those who declined were similar to those who enrolled with respect to initial surgery planned.

Design

The authors employed an experimental, randomized block design. Consenting participants were stratified by age (50–64 or 65 and older) then randomized to one of three groups for receipt of five scheduled telephone calls from a senior peer counselor: immediate contact (IC) (within 72 hours through five weeks postsurgery), delayed contact (DC) (beginning at week 6 and lasting through week 10 postsurgery), or usual contact (UC) (no peer counselor contact occurred unless requested by participant). DC timing coincided with the approximate start of the next treatment (i.e., radiation, chemotherapy, or endocrine therapy); the time when family and friends often return to their routines and patients are more likely on their own. Study enrollment and timing of the intervention were integrated with the clinical care as routinely delivered by RNs and the surgeons in the clinical setting. Participants were informed after surgery of their randomization group.

Procedures

Senior peer counselors: The rationale for and the recruitment and training of the six senior peer counselor volunteers who provided the study intervention has been previously described in Crane-Okada et al. (2010). All peer counselors completed 20 hours of professionally led training. Content included breast cancer diagnosis, treatment, and related symptoms; usual medical care processes specific to the healthcare setting; psychosocial issues; resources; and health information privacy and mental health confidentiality. All content augmented the peer counselors' 40-hour core training. The volunteers also completed the National Institutes of Health's (2011) Protecting Human Research Participants.

Experienced senior peer counselors were recruited based on their willingness to provide service for the study

for a minimum of one year in addition to their other volunteer commitments; for exhibiting such personal qualities as being nonjudgmental, empathic and enthusiastic, with high self-esteem, self-awareness of the problems of aging, genuineness, and a positive attitude toward older individuals (Freeman & Ross, 1995); and for having demonstrated skill as a current volunteer. A personal history of breast cancer was not required. The mean age of the counselors was 65.8 years (range = 47–79).

Intervention: Senior peer counselors initiated telephone calls at the time and location requested by participants in accord with their treatment group assignment. The counselors were provided with a brief script to guide them in their first contacts with patients and for consistency across counselors (Crane-Okada et al., 2010). Participants determined the length of the conversation. Peer counselors responded to verbal content of the participant. When peer counselors needed to make calls from home, they used a prepaid calling card and ensured that privacy and confidentiality could be maintained (i.e., they use a private room with no one within listening range). After five scheduled weekly contacts, participants were allowed to continue or resume peer counselor contact at any time until study completion at 12 months.

All telephone contacts were recorded by peer counselors as free text on a carbonless duplicate form modified from existing agency peer counseling documentation forms, along with contact date and time, duration, attempts made to reach participant, issues or topics identified (e.g., family-social network, physical symptoms, spiritual, financial or legal, decision making), and refer-

als made (e.g., physician, RN, community resource, staff dietitian, study team). Throughout the course of the study, peer counselors attended weekly supervision co-led by the licensed marriage and family therapist and the oncology advanced practice nurse who conducted the training (Crane-Okada et al., 2010). Case assignments were made during group supervision. Counselor-participant interactions were reviewed, as were concerns raised by peer counselors about participants. Participant responses or questions posed to the peer counselor that indicated a need for health information clarification, further assessment, or intervention in a timely manner (e.g., depression, suicidal thoughts) were directed to the peer counselor's direct supervisor or to the participant's RN or doctor (for treatment-related or clinical issues).

Instruments: Questionnaires administered at enrollment (prior to surgery and peer counselor intervention) and postoperatively during the course of the study and Cronbach alpha reliabilities are found in Table 1. All questionnaires were mailed with a self-addressed stamped return envelope or given in person at the time of regular clinical follow-up. Anxious mood was measured with the **Hospital Anxiety and Depression Scale (HADS)** (Zigmond & Snaith, 1983) that measures the participant's feelings during the prior week. The scale has established reliability and validity in breast cancer survivors (Hewitt et al., 2004). Because a score of 11 or higher on the anxious mood subscale indicates potentially clinically significant anxiety, the HADS was scored immediately on receipt and further communication was initiated with the participant and clinical team by the research staff for scores 11 or higher.

Table 1. Study Instruments and Administration Schedule

Instrument	Concept Measured	Timing				Scale Reported	Number of Items	Study Alpha
		Baseline ^a	After Intervention ^b	6 Months	12 Months			
Brief COPE (28 items)	Coping strategies	X		X	X	Seeking instrumental support	2	0.77
Fear of Recurrence (22 items)	Fear of recurrence		X	X	X	Fear of recurrence	22	0.95
Hospital Anxiety and Depression Scale (14 items)	Distress (anxious and depressed mood)	X		X	X	Anxious mood	7	0.9
Interpersonal Relationship Inventory (29 items)	Social support and conflict	X	X	X	X	Support	13	0.86
Resource Use (7 items)	Resource use		X	X	X	Resource use	7	0.68

^a Before surgery

^b Six weeks after surgery for immediate and usual contact groups, 11 weeks after surgery for all groups, and 16 weeks after surgery for the delayed contact group.

Social support was measured with the **Interpersonal Relationship Inventory (IPRI) short form** (Tilden, Hirsch, & Nelson, 1994). Higher scores indicate higher perceived support. Evidence for internal consistency reliability has been demonstrated in multiple studies with community and patient samples (ranging from 0.7 to greater than 0.89) (Tilden et al., 1994). The **Brief COPE** (Carver, 1997) measures the frequency of use of 14 coping strategies in stressful life situations, including breast cancer. Internal consistency, test-retest reliability, and convergent and discriminant validity has been established (Carver, 1997; Carver et al., 1993; Carver, Scheier & Weintraub, 1989). The two-item subscale of coping by seeking instrumental support refers to coping by getting advice or help from other people about what to do. Higher mean scores indicate greater use of the coping strategy.

Fear of recurrence and resource use were assessed at six months only. The **Fear of Recurrence (FOR)** scale by Northouse (1981) has established reliability and validity in breast cancer survivors. Higher summary scores on the FOR scale indicate greater fear of recurrence. **Resource Use**, developed for this study by the authors based on literature review and clinical experience with the population, measures the way in which participants use (e.g., spoke with or met with someone, attended a group or seminar) each of seven community resources: another breast cancer survivor, Reach to Recovery, spiritual, mental health, nutritional, the Wellness Community, and other (as specified by the participant). The Cronbach alpha reliability coefficient was 0.87 for this sample.

Data Analysis

Statistical analysis included descriptive, inferential, and nonparametric statistics. A formal power calculation for sample size was not conducted prior to the study based on the limited information available as to the likely magnitude of the intervention effect. Pearson chi-square and Fisher's exact tests were used to compare proportions across groups. T tests were used to compare quantitative measures between groups. To compare the study outcome measures between the groups, the authors first constructed analysis of variance (ANOVA) models. Those models included factors for intervention that were operationalized as a three-level factor (UC, IC, or DC) for the intervention-as-delivered analysis. Additional factors in the model were age (50–64 versus 65 and older) and the age by intervention interaction

effect. The models were separately fit for the baseline and six-month time points. Next, the authors constructed a repeated measures analysis of covariance (ANCOVA) model with factors for intervention (treated as a two-level factor: "yes or no"), age (treated as a continuous measure), and time (baseline or six months). The intervention-by-time interaction effect also was included, and the primary intervention effect inference is based on that interaction term. Statistical analyses were performed using SPSS®, version 13.0; p values less than 0.05 were considered significant.

Results

Sample Demographics

The first four participants enrolled were assigned to the IC group to initiate the intervention. For the total of 142 participants enrolled, randomization group assignment were UC (n = 46), IC (n = 50), and DC (n = 46) (see Table 2). Two UC participants withdrew shortly after enrollment, and one IC participant withdrew shortly before the study's end. For the remaining 139, the majority were Caucasian (91%), married or partnered (65%), without a family history of breast cancer (50%), had their breast cancer initially discovered on mammogram (58%), underwent breast conservation surgery (81%), and had stage 0–I disease (63%). All were insured with an indemnity plan (preferred provider) or Medicare. Fifty-eight percent of the participants declined a referral to Reach to Recovery by the clinical team primarily because they already had contact with someone with breast cancer. Participants ranged in age from 50–94

Table 2. Participant Group Allocation

Characteristic	Participant Group Allocation ^a					
	UC (N = 44) ^b		IC (N = 49) ^c		DC (N = 46)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Randomized at enrollment						
Age (years)	61.3	8.7	63.4	10.3	60.6	7.4
Characteristic	No Intervention		Peer Counselor Intervention ^d			
	UC (N = 33)		IC (N = 58)		DC (N = 48)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
As treated						
Age (years)	61.3	8.3	62.8	9.9	61	8.1

^a Stratified by age group prior to randomization

^b After two withdrew

^c After one withdrew

^d Eleven requested contact and were reassigned for subsequent analyses to an intervention group.

DC—delayed contact; IC—immediate contact; UC—usual contact

years, with a mean of 61.8 years. Although the majority of study participants were from California, the remaining participants came from nine other states and two foreign countries.

Eleven participants in the UC group requested peer counselor contact during the time immediately after surgery through six months postoperatively. The study design allowed for this; however, the resultant provision of the intervention to originally assigned control group participants created the need to analyze results in two ways: intent to treat and as treated. The results of intent-to-treat ANOVA by age and intervention group revealed age effects for perceived support and coping by seeking instrumental support but no intervention effects. Therefore, additional analyses were conducted using the as-treated approach.

Those control group participants requesting peer counseling support between one day and four weeks postsurgery were assigned to the IC group. Those requesting peer counseling support between 7.5 and 20 weeks postsurgery were assigned to the DC group. Significant differences between intervention groups at baseline were noted for partner status and type of surgery (see Table 3). UC participants were more likely to be partnered and less likely to have a mastectomy ($p < 0.05$). No significant differences between age groups were noted at baseline for background characteristics. At baseline, women aged 50–64 reported more perceived social support ($p < 0.05$) and greater use of seeking instrumental support as a coping strategy ($p < 0.01$) than did women aged 65 and older. Women aged 50–64 also reported significantly more additional household members than women aged 65 and older (1.3 versus 0.9, $p > 0.02$).

Intervention

Six senior peer counselors provided 10,214 minutes of contact via 680 separate contacts with 105 participants during the first six months of the study. On average, peer counselors successfully made six contacts per participant (range = 1–49) for a mean of 15 minutes per contact and 95 minutes per participant (range = 8–464, median = 65 minutes) in six months of study participation. Overall, participants were very satisfied with their peer counselor contact (Crane-Okada et al., 2010). Written comments from participants helped to illustrate how the peer counselor was viewed as a supportive resource (see Figure 1). A number of participants mentioned that, if the peer counselor had been a breast cancer survivor, it may have been more helpful, whereas the majority did not comment on that specifically and expressed appreciation for the support received. A few participants indicated a greater need for information than support, and a few said they did not need the calls. One participant who had received

Table 3. Sample Characteristics

Characteristic	UC (N = 33)	IC (N = 58)	DC (N = 48)
	n	n	n
Age (years)			
50–64	23	39	31
65 and older	10	19	17
Race			
Caucasian	27	54	46
Other	6	4	2
Partner status*			
No partner	7	19	23
Married or partnered	26	39	25
Family history of breast cancer			
Yes	17	21	25
No	15	35	20
Unknown	1	2	3
How discovered			
Routine mammogram	20	31	30
BSE	11	20	17
Physical examination	2	4	–
Routine mammogram and BSE	–	1	1
Other	–	2	–
Type of surgery*			
Lumpectomy	31	47	34
Mastectomy	2	11	14
Treatment			
Chemotherapy	1	5	5
Radiation therapy	18	26	21
Both chemotherapy and radiation therapy	10	14	15
Radiation therapy (after neoadjuvant chemotherapy)	–	3	1
None	3	9	6
Unknown	1	1	–
Pathology stage			
0	6	8	10
I	17	29	18
II or III	10	21	20

* $p < 0.05$

BSE—breast self-examination; DC—delayed contact; IC—immediate contact; UC—usual contact

neoadjuvant chemotherapy indicated that she needed the calls at that time; four participants in the DC group would have preferred earlier contact. Ten participants were still receiving, by their request, continued senior peer counselor contact six months postsurgery.

Anxious Mood

No significant main or interaction effects of age or intervention were noted on anxious mood at baseline or six months (see Table 4). When controlling for age with participants in IC and DC combined, no significant main or interaction effects of intervention or time were noted (see Table 5). Mean anxious mood scores declined over time for the sample ($\bar{X} = 8.8$, $SD = 5.1$ at baseline; $\bar{X} = 6.1$,

SD = 4.7 at six months), as did the frequency of scores 11 or higher, representative of potentially significant anxiety (35% at baseline; 18% at six months).

Social Support

A significant main effect of age on social support was noted at baseline and six months ($p < 0.05$); no significant interaction effects of age or intervention were observed. Younger participants reported higher social support than older participants regardless of intervention. When controlling for age with IC and DC participants combined, no significant main or interaction effects of intervention or time were noted. Overall, social support was stable over time for the sample. However, participants who were unpartnered with a HADS score of 11 or higher had significantly lower mean scores on perceived support ($p < 0.05$) at baseline and six months.

Coping by Seeking Instrumental Support

At baseline, the main effect of age was significant, such that younger participants (aged 50–64 years) used coping by seeking instrumental support more than the 65 and older participants. A significant interaction was noted between age and intervention group at baseline; within those randomized to UC, younger participants reported using considerably more of the coping strategy than older participants. At six months, significant independent effects of age and intervention were noted for the coping strategy. Younger participants again were more likely to use the coping strategy and participants in the UC group were the least likely. After controlling for age, a significant interaction effect was observed such that coping by seeking instrumental support decreased significantly less from baseline to six months in those who received peer counseling.

A significant main effect of age was noted for fear of recurrence and community resource use, measured at six months and not baseline. Younger participants reported a higher mean fear of recurrence ($\bar{X} = 75.7$, SD = 16.4) than older participants ($\bar{X} = 67.5$, SD = 15.6). Younger participants reported a higher mean number of resources used ($\bar{X} = 3.1$, SD = 1.5) than older participants ($\bar{X} = 2.4$, SD = 1.7).

To rule out the possibility of differential effects based on the actual amount of intervention received, the authors divided the participants receiving intervention into high and low contact based on the median value of 65 minutes. ANCOVAs similar to those presented in Table 5 were conducted. No significant interaction effects were observed between the baseline to six month repeated measure and amount of intervention received. No significant effects were noted from the amount of intervention for coping by seeking instrumental support or anxious mood. Breast cancer survivors who reported

Participant A

Immediate Contact: 181 minutes; six connected calls

Immediately After Intervention Completed:

"Conversations with [my peer counselor] have been enormously helpful. It's a very positive asset to have conversations with a kind and interested person who is not necessarily emotionally invested in you—family and friends have been wonderful, but may be frightened for me, and objective discussions are a welcome event."

Six Months After Intervention:

"[My peer counselor's] calls were enormously helpful. I find I try to minimize my condition when talking with friends and relatives to keep their fear level, and mine, at a reasonable level; but speaking with someone who has no emotional investment in me permitted me to let that guard down and, I believe, improved my level of communication with others in my life."

Participant B

Delayed Contact: 32 minutes; six connected calls

Immediately After Intervention Completed:

"Appreciated getting calls, but it helped more talking to people who've been through the experience. Otherwise the [peer counselor] could just do reflective feedback, not connect. If someone is a survivor, you cut through so many layers. It really helped to talk to someone who had [docetaxel] and didn't get neuropathy."

Figure 1. Participant Perspectives on the Benefit of the Peer Counselor Intervention

lower perceived social support at six months received significantly more minutes of support ($p < 0.05$).

Discussion

As demonstrated in other studies, the higher rates of anxious mood identified in patients before surgery declined over time in most participants. However, some participants continued to have anxiety at a level that warrants ongoing clinical assessment and possible intervention. In most cases, participants, when questioned, were receiving assistance or reported anxious mood associated with events surrounding the diagnosis or other stressors unrelated to the breast cancer experience and did not want additional support when offered. The rates of anxiety at levels needing intervention support the importance of systematic assessment of this symptom, particularly in those at higher risk for problems (i.e., unpartnered and anxious before surgery).

The mean score on social support in the sample ($\bar{X} = 4.5$) was slightly higher than that reported for other groups of women (Tilden, Nelson, & May, 1990). The scores for social support over time in the sample may be a reflection of the socioeconomic status of the patients typically treated in the practice setting in which the study was conducted. Although those who were younger reported significantly higher social support and more household members at baseline than women aged 65 and older, the higher overall support score in the current sample makes it difficult to differentiate effects of peer counseling as a created social network from

Table 4. Age Group by Intervention Interactions

Variable	Aged 50–64 Years						Aged 65 Years and Older						2 (Age) x 3 (ID) ANOVA (F)		
	UC (N = 23)		IC (N = 39)		DC (N = 31)		UC (N = 10)		IC (N = 19)		DC (N = 17)				
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	Age	ID	Age x ID
Anxious mood															
Baseline	7.7	4.5	9.2	5.8	10.2	4.5	8.4	4.7	7.3	4.9	8.9	5.6	0.8	1.1	0.6
Six months	4.8	4.9	6.6	5.5	7.2	4.2	6.1	4.1	5.1	4.6	5.9	4.2	0.3	0.5	0.9
Support															
Baseline	4.6	0.5	4.5	0.4	4.5	0.3	4.3	0.6	4.4	0.5	4.5	0.4	4.9*	0.4	0.6
Six months	4.6	0.4	4.6	0.5	4.5	0.5	4.2	0.4	4.4	0.5	4.3	0.6	6.5*	0.6	0.6
Coping-seeking instrumental support															
Baseline	3.6	0.6	3.4	0.8	3.4	0.8	2.3	1	3	1.1	3.2	0.7	17.2***	1.9	5**
Six months	2.4	0.9	3	0.8	3	0.9	2	1	2.2	0.9	2.5	0.7	10.8***	3.4*	0.7

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

ANOVA—analysis of variance; DC—delayed care; IC—immediate care; ID—intervention as delivered; UC—usual care

the value of the natural support network in place. The lower mean scores for participants who were anxious and unpartnered suggests a subgroup of women who could potentially benefit more from peer counseling.

Baseline and subsequent scores for coping by seeking instrumental support were comparable to those in two other studies of patients with newly diagnosed breast cancer (Carver et al., 1993; Stanton, Danoff-Burg, & Huggins, 2002), except for participants aged 50–64 without peer counselor support (the UC group) who had slightly higher mean scores. Use of that coping strategy declined over time overall, as might be expected with treatment completion. The finding that younger participants in the current study used that coping strategy significantly more, as well as a greater use of community resources, could be a function of any number of factors, including the possibility of more available, needed, or sought out instrumental support. The overall difference (averaging over time) between the groups, as well as the interaction, is basically an overall effect of treatment over time and not simply a difference between randomized groups. The combined conclusion of the interaction and intervention effects being significant is that those with no peer counseling had a larger decrease over time in coping by seeking instrumental support than those who had peer counseling. Peer counselor contact could have encouraged the use of the coping strategy or, conversely, those who had greater peer counselor contact had greater needs and coped by more seeking of instrumental support. Additional research is needed to delineate that process.

The mean score for fear of recurrence in the 65 and older participants regardless of

grouping (UC, IC, or DC) is comparable to that seen in a study by Mellon, Northouse, and Weiss (2006) of breast and other cancer survivors an average of 3.4 years post-diagnosis, aged 52–75 years. However, fear of recurrence was slightly higher for women aged 50–64 in the current sample than that for the sample of cancer survivors in Mellon et al. (2006). Younger age has been associated with greater fear of recurrence in other studies (Hartl et al., 2003; Hilton, 1989). Consistent with findings of Stanton et al. (2000) (\bar{X} age = 52.6, range = 30–80), fear of recurrence remained stable over time in the first year postsurgery. Fear of recurrence was highest at each time point in participants who were anxious and alone at baseline, suggesting a subgroup where peer counselor intervention could be targeted.

Table 5. Assessment of Age and Intervention as Delivered Effects on Study Outcomes

Variable	Peer Counseling				ID x Time ANCOVA (F)		
	No (N = 32)		Yes (N = 103)				
	\bar{X}	SD	\bar{X}	SD	ID	Time	ID x Time
Anxious mood							
Baseline	7.9	5.1	9.1	5.1	2	0.5	0
Six months	5.1	4.6	6.4	4.6			
Support					0.2	0	0
Baseline	4.5	0.4	4.5	0.4			
Six months	4.4	0.5	4.5	0.5			
Coping-seeking instrumental support					4.9*	0.3	5.4*
Baseline	3.2	0.8	3.3	0.9			
Six months	2.2	0.8	2.8	0.9			

* $p < 0.05$

ANCOVA—analysis of covariance; ID—intervention as delivered

Limitations

Study limitations include a lack of diversity in insurance (all had indemnity plans or Medicare), race, or surgical treatment in the sample. In addition, the small sample ($n = 9$) of women aged 65 and older who did not have peer counselor contact limited the authors' analyses and conclusions about that group. The intervention dosing was limited to five scheduled contacts with early breast cancer survivors (within three months of surgery). Some participants did request continued contact with their peer counselors and, for a few, that contact lasted several weeks to months. Rehse and Pukrop (2003), from a meta-analysis of 37 psychosocial intervention studies of cancer, concluded that interventions of 12 or more weeks were the most effective. That also has been suggested as ideal for establishing a stable and trusting relationship between patient and provider (Rehse & Pukrop, 2003; Street, Makoul, Arora, & Epstein, 2009). It seemed that some senior peer counselor and participant pairings were more aligned than others. However, such relationship alliance was not measured. Therefore, the number or length of contacts in the study may not have been an adequate intervention dose or provided adequate opportunity for establishing such a relationship where outcome effects might be more apparent. The number of patients having continued contact with a peer counselor throughout the course of their involvement in the study and more than 12 contacts was too small for additional analysis.

Another factor not measured in the study was participant receptivity to support. The willingness to be in a research study where peer counseling support was offered may not correspond with being receptive to or in self-perceived need of support. Some participants indicated that they did not really need additional support, some did not think they needed emotional support but later found that they did, and some wanted informational support. Others, as is seen in practice, found good support from unexpected sources. More than 50% of the sample did not access Reach to Recovery when offered by the healthcare team. When support is mentioned to patients, the term can have quite varied meanings. At diagnosis and as treatment planning evolves, patients learn who they need support from, what kind of support surfaces, and what they actually need. Enrolling at the time of diagnosis may have been too early for women to know how best to use the peer counselor support. How participants in the study viewed their peer counselors (i.e., as confidential peers providing social support or as liaisons to the treatment team) is unknown.

Research Implications

The prevalence of psychosocial distress in breast cancer and often limited resources will be driving forces

for the development of evidence-based lay-professional partnership models to reduce distress. Continued research on the use of senior peer counseling support for older breast cancer survivors is needed. The extent and scope of training and service delivery need careful delineation and description in future studies as well. Senior peer counselors who receive extensive training and ongoing professional support may need to be classified differently than lay providers with minimal training. The optimum length of individual contacts, the duration of the intervention over time, and the mechanism (phone, in person, and Internet) have each been explored in several studies; however, much remains to be learned. Future studies should consider a longer duration of scheduled contacts (e.g., 12 sessions or weeks) or the addition of follow-up contacts. Less time or contact than that may be too short or too compressed. Future research that includes a qualitative component (e.g., focus groups) would be helpful in learning how the peer counselor-participant alliance develops and may affect key outcomes of interest in the study.

Nursing Implications

Although the small sample in the current study limits the conclusions that can be made, some women clearly benefited from the intervention. The current study suggests that age, partner status, and anxious mood at diagnosis may be factors in determining patients with greater vulnerability to distress and, therefore, potential greater need for ongoing formal contact and support. Allocation of limited resources to those in greatest need is of ongoing concern in oncology care. The use of senior peer counselors appears to be of direct benefit to some patients. That may have indirect benefit for the healthcare team. Collaborative use of trained senior peer volunteers who are supervised by a skilled clinical team may be a useful adjunct in addressing psychosocial support for newly diagnosed older women with breast cancer. Programs in clinical settings require an infrastructure that ensures oversight of volunteer training, patient referrals and assignments, clinical supervision and compliance with protection of confidential health information, and program development and evaluation.

Conclusions

Senior peer counseling with trained and supervised senior peer counselors was a useful adjunct to the clinical team and valued by most participants. Age-related differences exist between those aged 50–64 and 65 and older, with the intervention appearing to be differentially received by age group. Data suggest that senior peer counseling may affect instrumental support seeking.

Additional analysis of data to explore anxious mood and partner status may be worthwhile. Further study is needed to better understand who benefits most and how from this type of intervention.

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