

Telephone Interpersonal Counseling With Women With Breast Cancer: Symptom Management and Quality of Life

Terry Badger, PhD, APRN, BC, Chris Segrin, PhD, Paula Meek, RN, PhD,
Ana Maria Lopez, MD, Elizabeth Bonham, MS, APRN, BC, and Amelia Sieger, BS

Purpose/Objectives: To examine the effectiveness of a telephone interpersonal counseling (TIP-C) intervention compared to a usual care attentional control for symptom management (depression and fatigue) and quality of life (positive and negative affect, stress) for women with breast cancer.

Design: Experimental with repeated measures.

Setting: Academic cancer center and urban, private oncology offices.

Sample: 48 women with breast cancer who were in their mid-50s, married, and employed at the time of the study.

Methods: Women were assigned to either the six-week TIP-C or attentional usual care groups. Women were matched on stage and treatment. Data were collected at baseline, after the six interventions, and one month postintervention. Measures included the Center for Epidemiologic Studies–Depression Scale, Positive and Negative Affect Schedule, Multidimensional Fatigue Inventory, and Index of Clinical Stress.

Main Research Variables: Depression, positive and negative affect, fatigue, and stress.

Findings: Women in the intervention group experienced decreases in depression, fatigue, and stress over time and increases in positive affect.

Conclusions: The preliminary results partially supported the effectiveness of TIP-C for symptom management and quality of life. The authors hypothesized that decreased depression, reduced negative affect, decreased stress, decreased fatigue, and increased positive affect over time would be the resulting psychosocial effects, given the theoretical underpinnings of the intervention.

Implications for Nursing: Nurses need to assess the quantity and quality of the social support network early in treatment; women with less social support need to be referred to counseling and support services. Because these women have limited participation in face-to-face interventions, they should be encouraged to participate in telephone or online support programs or in other programs or organizations (e.g., churches, social clubs) that would provide support.

In 2005, more than 200,000 women will be diagnosed with breast cancer (American Cancer Society, 2005), and the majority will have treatment-related side effects associated with their cancer experience (Badger, Braden, & Mishel, 2001; Lewis, Zahlis, Shands, Sinsheimer, & Hammond, 1996; Winningham et al., 1994). Women with breast cancer suffer physically and psychologically in response to the diagnosis and treatment of their cancer (Badger et al., 2001; Sandgren & McCaul, 2003), and these responses will significantly influence cancer recovery, quality of life (QOL), and long-term survival (Badger, Braden, Longman, & Mishel, 1999; Giese-Davis & Spiegel, 2003; Paraska & Bender, 2003; Pasacreta, 1997).

Key Points . . .

- ▶ Women in the intervention group experienced decreases in depression, fatigue, and stress and an increase in positive affect.
- ▶ Preliminary findings are consistent with previous research that counseling interventions work to decrease negative outcomes in some women.
- ▶ The telephone may be an effective method to deliver psychosocial interventions to meet the needs of patients with cancer and their partners.
- ▶ Nurses need to assess the quantity and quality of social support early in treatment, recognizing that social support is vital during cancer recovery.

Of the side effects experienced, cancer treatment-related fatigue is the most common across cancer diagnoses, stages of disease, and treatment regimens, with estimates ranging from 40%–100% (Meek et al., 2000; Nail, 1996). The most common psychological response experienced by women with breast cancer is depression, with estimates ranging from 4.5%–50% (Newport & Nemeroff, 1998). Women have rated fatigue and depression among the top five most distressing side effects of the cancer experience (Badger et al., 2001; Nail).

Substantial evidence exists that distressing side effects decrease women's abilities to marshal critical psychological and social support when the need for it is greatest (Giese-Davis & Spiegel, 2003; Rehse & Pukrop, 2003). Women with breast cancer routinely describe the negative consequences the

Terry Badger, PhD, APRN, BC, is a professor in the College of Nursing, and Chris Segrin, PhD, is a professor in the Department of Communication, both at the University of Arizona in Tucson; Paula Meek, RN, PhD, is a professor in the School of Nursing at the University of New Mexico in Albuquerque; Ana Maria Lopez, MD, is an assistant professor of clinical medicine and pathology in the Arizona Cancer Center at the Arizona Health Science Center in Tucson; and Elizabeth Bonham, MS, APRN, BC, is a doctoral student, and Amelia Sieger, BS, is a nursing student, both in the College of Nursing at the University of Arizona. Funding for this study was provided by the ONS Foundation. (Submitted January 2004. Accepted for publication May 5, 2004.)

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cancer diagnosis and treatment have on themselves and their family members. Although face-to-face psychosocial interventions improve the psychological adjustment and health-related QOL of patients with cancer (Bottomley, 1997; Fawzy, Fawzy, Arndt, & Pasnau, 1995; Newport & Nemeroff, 1998; Spiegel, 1997; Vinokur, Threatt, Vinokur-Kaplan, & Satariano, 1990), psychosocial interventions are not offered routinely to patients. And even when they are offered, only a small number of patients with cancer take advantage of face-to-face psychosocial interventions (Marcus et al., 2002). Recognizing that breast cancer and its treatment have profound relational implications for women and their partners, the current study's authors have tested the effectiveness of an experimental interpersonal counseling regimen delivered over the telephone for women undergoing treatment for breast cancer.

Among therapeutic interventions, interpersonal psychotherapy has well-documented effectiveness for patients with emotional distress (Rounsaville, Klerman, Weissman, & Chevron, 1985; Weissman & Markowitz, 1998; Weissman, Markowitz, & Klerman, 2000). Interpersonal psychotherapy is based on the assumption that problems such as depression affect and are affected by the nature of an individual's interpersonal relationships (Weissman et al.). Regardless of etiology in any given case, depression and other emotional distress can be maintained, alleviated, or exacerbated through interpersonal interactions. Consequently, the focus of interpersonal psychotherapy is on examining the nature of current interpersonal relationships and how they influence and are influenced by psychological distress. The role of counseling is to help patients to decrease interpersonal strains and stresses to improve health. A brief version of interpersonal psychotherapy, known as interpersonal counseling, has been offered by nurse practitioners and other healthcare professionals with positive results (Weissman & Klerman, 1993). Similar to interpersonal psychotherapy, interpersonal counseling retains a focus on current relationships and sources of stress and dissatisfaction in a person's life from work, family, and friends. Interpersonal psychotherapy and interpersonal counseling focus on the four key relationship issues of grief, interpersonal role disputes, role transitions, and interpersonal deficits. Clinical trials of interpersonal psychotherapy and interpersonal counseling have provided favorable data supporting their efficacy as acute treatments in various primary care contexts and suggest that they would be equally effective in cancer care (Klerman & Weissman, 1993; Schulberg & Scott, 1991).

Donnelly et al. (2000) recently presented the first published results of telephone interpersonal psychotherapy with patients with cancer. An innovative feature of Donnelly et al.'s design involved the active participation of patients' close companions. Patients ($n = 14$) and their partners ($n = 10$) received weekly telephone sessions in concert with the first chemotherapy administration and ending four weeks after the final administration. On average, patients participated in 16 sessions and partners in 11 sessions. By the end of the clinical trial, 33% of the patients showed "marked improvement" in their psychological well-being, and another 33% showed a minor improvement or a stable symptom profile over the course of the investigation. Conversely, only 25% of the sample exhibited a "marked worsening" of symptoms from baseline to final assessment. Despite the chemotherapy that was concomitant to the interpersonal psychotherapy, two-thirds of the patients experienced anywhere from stable to markedly improved

symptom profiles. Patients and partners reported high levels of satisfaction with the telephone interpersonal psychotherapy.

These findings suggest that interpersonal psychotherapy is capable of decreasing the psychological distress that often accompanies chemotherapy for patients and their partners. Interpersonal psychotherapy had direct positive effects on patients' psychosocial and physical well-being and indirect positive effects by assisting their partners. During the course of interpersonal psychotherapy, patients and partners benefited from being able to express their anxiety and uncertainty about the cancer treatment. As a natural extension of the psychoeducational component of interpersonal psychotherapy, information about cancer and chemotherapy was provided for the current study.

The conceptual framework for the current study is derived from interpersonal psychotherapy and diathesis-stress vulnerability models of depression (Rounsaville et al., 1985; Segrin & Flora, 2000; Weissman & Markowitz, 1998; Weissman et al., 2000). The diathesis-stress vulnerability model posits that individuals have a predisposition, or vulnerability, to developing depressive symptoms that may make them more susceptible to negative health outcomes following a major stressful event, such as cancer diagnosis and treatment. In this framework, social support appears to be an especially salient factor in reducing negative health outcomes (Maunsell, Brisson, & Deschenes, 1995; Northouse, 1994). Social support, defined broadly as affective, instrumental, informational, and appraisal support, is the target of the current study's interpersonal intervention. Social support essentially reduces the ill effects of stress that typically accompany threats to well-being. This is achieved largely through interpersonal communication that allows individuals to "work through" the affective reaction to the stressor and to marshal instrumental support for tangible assistance with roles and functions, informational support for advice or suggestions, and appraisal support for gauging and adjusting to the stressor. Among patients with cancer, such behaviors can make the cancer experience seem less overwhelming and can aid in adjusting to the illness (Lugton, 1997).

Recent reports suggest that telephone counseling has become a standard means of providing education and advice to medical patients (Greenberg, 2000; Ridsdale et al., 2001). Hunkeler et al. (2000) found that telephone counseling by nurses with depressed medical patients reduced depressive symptoms when compared to patients without telephone contact. Similarly, Braden, Mishel, and Longman (1998) found significant improvements in psychological adjustment and QOL among women with breast cancer who received telephone case management. Telephone intervention eliminates the visual channel of communication, offering greater anonymity to patients and their partners. Because some patients undergoing chemotherapy experience extreme self-consciousness about their appearance, use of the telephone allows patients to interact with their healthcare providers without being concerned about their visual image. Use of the telephone also allows for the delivery of counseling to people living in rural areas who might not otherwise have access to the same range of medical and psychological services available to those in urban settings. The telephone may be a cost-effective method of delivering interventions, and telephone-delivered interpersonal psychotherapy may be an especially effective intervention for women with breast cancer and their partners.

The purpose of the current study was to examine the effectiveness of a telephone interpersonal counseling (TIP-C) inter-

vention compared to a usual care attentional control group on women's symptom management (depression and fatigue) and QOL (positive and negative affect and stress). This analysis will focus on women with breast cancer and the hypotheses comparing the two groups (TIP-C and usual care) to determine the effectiveness of the TIP-C intervention for decreasing depression, negative affect, general fatigue, and stress and for increasing positive affect. The findings for these women's partners are reported elsewhere (Segrin et al., 2004).

Method

This pilot study used a repeated-measures experimental design with 48 women with breast cancer assigned to either the TIP-C intervention or usual care attentional control group. Participants were recruited from a local cancer center, oncologists' offices, and support groups and through self-referral after reading brochures displayed in the various settings. Eligibility criteria included having a diagnosis of stages I–III breast cancer, receiving adjuvant treatment for breast cancer, being able to speak English and talk on the telephone, and having a partner who also was willing to participate in the counseling. Adjuvant treatment included any combination of chemotherapy, radiation, and hormone therapy. After informed consent was obtained, participants completed the questionnaires at baseline (T1), after the six-week intervention (T2), and one month after T2 (T3). All interventions and data collections were completed over the telephone.

Intervention

The treatment, TIP-C, is based on theories of interpersonal therapy (Klerman & Weissman, 1993; Weissman et al., 2000) and cancer education. Participants received six weekly telephone calls from a nurse counselor while they were undergoing treatment for breast cancer. Nurse counselors were master's-prepared clinical nurse specialists in psychiatric-mental health nursing who had additional oncology training. Total training in interpersonal psychotherapy techniques and oncology included 32 hours of didactic content plus supervised counseling practice. The training program included discussion of the intervention protocol, theoretical aspects of the intervention, and cancer treatment information supplemented with reading assignments from the scientific literature. Ongoing review of tape-recorded intervention sessions and supervision provided quality control for the TIP-C sessions.

Counseling sessions focused on issues such as cancer education, interpersonal role disputes, social support, awareness, and management of depressive symptoms, and role transitions. (For a case study, see Badger, Segrin, Meek, Lopez, and Bonham [2004].) Participants also nominated a close partner, usually a husband, to participate with them in the study. The partners received three TIP-C sessions (weeks 1, 3, and 5) during the same six-week period as the women. These sessions also focused on issues such as cancer education, role disputes, role transitions, and social support. Telephone sessions averaged 32.9 minutes for the women and their partners.

The usual care condition also involved six weekly calls from the nurse counselor for the woman and three calls for the partner. Those in the usual care group received a resource list about cancer and brief, focused calls to inquire about general well-being and to answer general questions, but no counseling. Usual care calls averaged eight minutes.

Measures

Depression was measured using the 20-item **Center for Epidemiologic Studies–Depression Scale (CES-D)** (Radloff, 1977). Scores range from 0–60, with higher scores indicating greater depression symptoms. Scores greater than or equal to 16 are considered positive for depression. The CES-D has been used in numerous studies with general and cancer populations since the 1980s with satisfactory reliability and validity results (e.g., Nail, 1996; Visser & Smets, 1998). Cronbach's alpha (α) was greater than or equal to 0.90 across all three measurement periods in this study.

Affect was measured by the 20-item **Positive and Negative Affect Schedule (PANAS)** (Watson, Clark, & Tellegan, 1988). Scores range from 10–50, with higher scores reflecting greater negative or positive affect. PANAS has been used extensively with general and cancer populations with satisfactory reliability and validity (Badger, Braden, Mishel, & Longman, 2004; Manne & Schnoll, 2001). In this study, the positive and negative subscales had α greater than or equal to 0.88 reliabilities across time.

Fatigue was measured using the 20-item **Multidimensional Fatigue Inventory (MFI)** (Smets, Garssen, Bonke, & DeHaes, 1995), which has five subscales, including physical, general, and mental fatigue and reduced motivation and activity. Scores range from 4–28, with higher scores reflecting greater fatigue. The MFI has had satisfactory reliability and validity in previous studies (e.g., Meek et al., 2000), and in this study, the MFI total score reliabilities were α greater than or equal to 0.90 across time. In this analysis, the authors used the total 20-item scale as a global index of fatigue.

Stress was measured using the 25-item **Index of Clinical Stress (ICS)** (Abell, 1991; Attala, Hudson, & McSweeney, 1994). Scores range from 25–175, with higher scores indicative of more stress. The ICS has been used in previous studies with satisfactory reliability and validity (Abell). In this study, α was greater than 0.96.

Results

Participants

Table 1 lists the demographic and illness characteristics of the participants. No significant differences existed among participants for demographic characteristics. The typical participant was white, in her mid-50s, married, and employed at the time of the study. More women in the TIP-C group were stage II, but the difference was not statistically significant ($\chi^2 = 1.80$, $df = 2$, $p > 0.41$). More women in the usual care group were receiving hormones in addition to their chemotherapy and radiation therapy regimens, but again, this difference was not statistically significant.

Variables of Interest

Prior to testing the effectiveness of the intervention compared to usual care, the inter-relations among the QOL indicators were evaluated with Pearson correlations. Matrices of correlations for T1, T2, and T3 QOL indicators appear in Table 2. These correlation analyses reveal moderate to strong associations among all of the QOL indicators. Particularly noteworthy are the significant associations between fatigue and all of the affective indicators of QOL.

Analyses of the effectiveness of the TIP-C intervention were conducted with a series of mixed model analysis of

Table 1. Demographic Characteristics

Variable	Usual Care (N = 24)		TIP-C (N = 24)	
	\bar{X}	SD	\bar{X}	SD
Age (years)	54.71	10.34	53.04	8.72
Years married	17.25	15.17	26.15	14.88
Number of children	2.17	1.24	2.04	1.40
Variable	n	%	n	%
Race				
White	22	92	16	67
Hispanic	2	8	8	33
Marital status				
Married	17	71	18	75
Education				
Middle school	1	4	–	–
High school	1	4	7	29
Vocational/technical	7	29	6	25
College	10	42	2	8
Graduate school	5	21	9	38
Stage of cancer				
I	12	50	6	25
II	10	42	15	63
III	2	8	3	13
Treatment				
Chemotherapy	15	63	17	71
Hormone therapy	14	58	7	29
Radiation therapy	15	63	12	50

TIP-C—telephone interpersonal counseling intervention

Note. Because of rounding, percentages may not total 100.

covariance (ANCOVA). For each analysis, one of the QOL indicators (e.g., depressive symptoms) at baseline (T1), post-test (T2), and follow-up (T3) was treated as a repeated measures factor and treatment group (TIP-C or usual) was the between subjects factor. Because the TIP-C and usual care groups were not entirely equivalent on stage of cancer, chemotherapy, radiation, or hormone-blocking therapy, these four cancer-related variables were treated as covariates in these analyses. One mixed-model ANCOVA was conducted for each of the dependent measures: depression, negative affect, positive affect, general fatigue, and stress. Before interpreting any of the statistical effects, each dependent variable was tested for sphericity (homogeneity of covariance) over the three measurement periods. In all cases, the sphericity assumption was met. Significant findings ($p < 0.05$) and trends ($p \leq 0.10$) were reported in this exploratory analysis.

Depression: Because symptoms of depression are positively skewed in the general population and in the study sample, CES-D scores were square-root transformed prior to analysis. The hypothesis that depression would decrease over time in the TIP-C group was partially supported as a trend of change over time. Results for changes in symptoms of depression over time revealed no significant main effect for time ($F [2, 33] = 1.77$, $p = 0.19$) nor a time by group interaction ($F [2, 33] = 1.87$, $p = 0.17$). Examination of group means over each measurement indicated a trend suggestive of consistently decreasing symptoms of depression over the course of the investigation for those receiving the TIP-C intervention (see Table 3).

Positive and negative affect: The hypothesis that negative affect would decrease over time for those in the TIP-C group

was not supported. Results for negative affect produced no significant main effect for time ($F [2, 33] = 0.08$, $p = 0.92$) or a time by group interaction ($F [2, 33] = 0.71$, $p = 0.50$). The hypothesis that positive affect would increase over time was supported. The ANCOVA for positive affect revealed a significant main effect for time ($F [2, 68] = 3.74$, $p = 0.03$) but no significant time by group interaction ($F [2, 68] = 0.10$, $p = 0.91$). A quadratic effect existed for time ($F [1, 38] = 4.90$, $p = 0.03$) such that levels of positive affect dropped slightly from T1 to T2 but then increased, especially for the TIP-C group, from T2 to T3.

Fatigue: The hypothesis that fatigue would decrease over time for the TIP-C group was partially supported as a trend in the change over time. No significant main effect existed for time ($F [2, 33] = 1.02$, $p = 0.37$). However, a trend was found in the time by group interaction ($F [2, 33] = 2.65$, $p = 0.09$). Covariate adjusted means for fatigue in Table 3 indicate that reported levels of fatigue declined for those in the TIP-C group but not for those in the control group.

Stress: The hypothesis that stress would decrease over time for the TIP-C group was supported. Results for changes in stress over time, as measured by the ICS, revealed a significant effect for time ($F [2, 32] = 3.27$, $p = 0.05$), but no time by group interaction existed ($F [2, 32] = 1.78$, $p = 0.19$). An examination of group means at each measurement indicated a trend suggestive of decreasing stress for both groups from T1 to T2. This decrease was more precipitous for those in the TIP-C group, however. By T3, the authors found that this trend in the direction of decreasing stress clearly continued for the TIP-C group. In contrast, levels of stress increased on average from T2 to T3 for participants in the usual care group.

Table 2. Intercorrelations Among Quality-of-Life Indicators at Time 1, Time 2, and Time 3

Quality-of-Life Indicator	Time 1				
	1	2	3	4	5
1. Depression	–				
2. Negative affect	0.72***	–			
3. Positive affect	–0.60***	–0.25	–		
4. Fatigue	0.72***	0.44**	–0.67***	–	
5. Stress	0.85***	0.78***	–0.53***	0.62***	–
Quality-of-Life Indicator	Time 2				
	1	2	3	4	5
1. Depression	–				
2. Negative affect	0.65***	–			
3. Positive affect	–0.59***	–0.27	–		
4. Fatigue	0.59***	0.35*	–0.67***	–	
5. Stress	0.79***	0.78***	–0.36*	0.46**	–
Quality-of-Life Indicator	Time 3				
	1	2	3	4	5
1. Depression	–				
2. Negative affect	0.78***	–			
3. Positive affect	–0.65***	–0.39**	–		
4. Fatigue	0.67***	0.44**	–0.74***	–	
5. Stress	0.85***	0.78***	–0.59***	0.57***	–

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Means for Treatment and Control Groups Across Time

Scale	Covariate Adjusted Means (Standard Error)					
	Treatment			Control		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
Center for Epidemiologic Studies–Depression Scale ^a	3.57 (0.38)	3.36 (0.35)	3.06 (0.31)	2.85 (0.40)	2.74 (0.37)	3.05 (0.32)
Positive and Negative Affect Schedule						
Negative	21.62 (1.92)	19.60 (1.53)	18.76 (1.70)	17.32 (2.05)	16.34 (1.61)	16.79 (1.79)
Positive	36.93 (1.88)	36.57 (1.87)	37.60 (1.65)	35.71 (1.98)	34.95 (1.97)	35.34 (1.74)
Multidimensional Fatigue Inventory	38.67 (3.49)	30.63 (3.96)	28.54 (3.86)	37.63 (3.68)	33.78 (4.17)	37.15 (4.07)
Index of Clinical Stress	68.91 (6.78)	68.87 (6.30)	62.33 (6.01)	59.42 (6.97)	53.24 (6.47)	58.13 (6.17)

^a Center for Epidemiologic Studies–Depression Scale scores were square-root transformed.

Discussion

These findings are consistent with previous findings (e.g., Giese-Davis & Spiegel, 2003; Marcus et al., 2002) about the benefits of counseling for patients with cancer. These preliminary results partially supported the effectiveness of the TIP-C intervention for symptom management and QOL. Although only an increase in positive affect and a decrease in stress were found to be statistically significant and that effect occurred in the treatment and control groups, clear trends were found for decreases over time in depression, negative affect, and fatigue for participants in the TIP-C group. Several possible explanations exist for these findings. First, given the theoretical underpinnings of the intervention, the authors would expect the psychological indicators to improve, and the trends do, in fact, support that they did. The TIP-C intervention might have helped to reduce fatigue through psychological variables such as depression and stress that were correlated with fatigue. Although the authors suspect that fatigue might be indirectly influenced by the psychological indicators, they were unable to test that hypothesis because of the small sample size.

Second, perhaps these findings can be explained with a dosage effect. Six weeks may not sufficient time to achieve the full impact of the intervention. Additional preliminary analyses have documented a dosage effect, such that those who received a greater number of minutes of the intervention evidenced greater gains in reducing negative and increasing positive indicators. This pattern also is consistent with meta-analytic findings showing that the duration of psychosocial interventions is correlated positively with improvements in patients' QOL (Rehse & Pukrop, 2003). Again, in this study, the trend data also support the premise that increased number of sessions in future research might be beneficial to women for symptom management and QOL.

The results from this investigation also support the theoretical models that connect social support with positive mental and physical health outcomes (Cohen, Gottlieb, & Underwood, 2000; Cohen & Wills, 1985; Sarason, Sarason, & Gurlung, 2001). Researchers generally believe that social support can reduce the appraised threat and stress responses that commonly follow a psychological or physical threat and that social support provides a general sense of belonging and well-being that minimizes psychological despair. This is, perhaps, one reason why social support is such a good predictor of mental health and QOL in patients with cancer (Devine, Parker, Fou-

ladi, & Cohen, 2003; Parker, Baile, de Moor, & Cohen, 2003). The TIP-C intervention applied in this investigation provided a number of different types of social support (e.g., informational, emotional) in addition to helping participants identify available social support in their own networks. By including partners in the intervention, the authors hoped that the social support available to patients during and after the counseling would be enhanced. Social support is especially important for maintaining the psychological well-being of people in rural areas (Letvak, 2002). Such individuals ordinarily do not have the same access to healthcare systems as those in developed urban areas. Because more than 40% of the sample in the present investigation resided in small towns and rural communities, the authors believe that the six-week telephone counseling intervention helped to improve or maintain their mental health and QOL during such trying times.

These preliminary findings provide some practice implications, however. Nurses need to assess the quantity and quality of the social support network early in treatment, recognizing that this network is vital to the recovery and QOL of women with cancer. Women who have less social support need to be routinely referred and encouraged to participate in counseling and support services. And because participation in face-to-face psychosocial interventions is poor, nurses could encourage women to participate in telephone or online support programs or in other programs or organizations (e.g., churches, social clubs) that would provide support. Although this intervention requires additional training in the advanced practice role, some techniques in the intervention could be used by all nurses, regardless of specialty training, to provide critical education and support to women with breast cancer. For example, nurses could provide education to reduce anxiety.

In conclusion, these preliminary findings are consistent with previous results indicating that counseling interventions work to decrease negative outcomes in some women. Although healthcare providers must proceed with caution because of the exploratory nature of these findings and the small sample size of this pilot study, the challenge is to continue to examine and refine the intervention in future research with larger sample sizes. The telephone indeed may be an effective method to deliver psychosocial interventions to meet the needs of patients with cancer and their partners.

Author Contact: Terry Badger, PhD, APRN, BC, can be reached at tbadger@nursing.arizona.edu, with copy to editor at rose_mary@earthlink.net.

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