

Women's Perceptions of the Effectiveness of Telephone Support and Education on Their Adjustment to Breast Cancer

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Purpose/Objectives: Social support is believed to be important in helping women adjust to breast cancer. Reports have suggested limited positive effects of social support on well-being, mood disturbances, and relationships with significant others for women who receive telephone support. Women's perceptions of the role of social support in recovery, however, has had limited study. The purpose of this study was to describe women's perceptions of their emotional and interpersonal adaptations to breast cancer after their involvement in a randomized clinical trial in which one group received educational materials and telephone support from oncology nurses and another group received educational materials only.

Research Approach: Content analysis was used to discover women's perceptions of their emotional and interpersonal adaptation to breast cancer following their participation in a study in which one group received educational materials and telephone support from oncology nurses and another group received educational materials only.

Setting: All participants were interviewed by telephone in their homes.

Participants: 77 of 106 women with breast cancer from a randomized clinical trial were interviewed about their expectations of their adaptations and the effectiveness of the experimental and social support intervention delivered by telephone.

Methodologic Approach: Telephone interviews were recorded on audiotape and transcribed for analysis. Structured interviews were completed by a non-nurse interviewer. Frequency counts were obtained from the responses to items and comments were clustered for themes.

Main Research Variables: Emotional and interpersonal adaptations to breast cancer, educational materials, and telephone support from oncology nurses.

Findings: Fifty-four percent of the women who received the telephone support interventions reported improvement in attitude, whereas 43% of the interviewed women in the control group reported improvement. Only three participants, all in the control group, reported worsened emotional status. The percentage of those reporting improved or unchanged physical status was about equal in each group. The majority of participants in both groups indicated that their levels of involvement in activities remained the same or increased. Forty-six percent of participants in the intervention group reported improved relationships with their spouses compared to 38% in the control group. Women from both groups indicated that the diagnosis of cancer had caused them to review their lives and make changes in their relationships and activities.

Conclusions: Participants who received telephone support for one year, in addition to educational materials, reported improvement in their attitudes toward their breast cancer and better relationships with their significant others.

Interpretation: The women's perceptions are consistent with quantitative results from the clinical trial. This article reports additional evidence that telephone support is an effective alternative to support groups and may be appropriate for those with limited access to such groups because of geography, work demands, or family situations.

Key Points . . .

- ▶ Telephone support to assist patients in adapting to living with cancer is a viable option for those unable to attend traditional support groups.
- ▶ Support via telephone resulted in the perception of improved relationships with significant others.
- ▶ Social support provided by nurses by telephone remains an area for further investigation.

Social support is important in helping women adjust to living with breast cancer. However, no definitive evidence exists to guide healthcare providers about the most appropriate and effective ways to provide such support. Women's perceptions of the role that social support has in their recovery may be an important factor that has had limited study and may offer some insight into effective techniques for providing support. This article supplies an analysis of women's perceptions of their emotional and interpersonal adaptations to breast cancer following their involvement in a randomized clinical trial in which one group received educational materials and telephone support from oncology nurses and another group received educational materials only.

Literature Review

Suffering causes intense emotions and the desire to talk with others and may affect the need for and perception of

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social support (Davison, Pennebaker, & Dickerson, 2000). Suffering also may alter the types of social support people are willing to accept or participate in, including professionally led support groups. Support groups have discussions that are led by trained facilitators, typically healthcare professionals (Helgeson, Cohen, Schulz, & Yasko, 2000). The literature suggests that support groups can positively impact length of survival and life satisfaction in breast cancer survivors (Matthews, Baker, Hann, Denniston, & Smith, 2002; Spiegel, 1994). Professionally led support groups are increasing in number; however, research regarding the efficacy of support groups is inconclusive (Helgeson et al., 2000).

Telephone delivery has been suggested as an alternative method for providing support that may help with relationship issues and reduce symptoms such as emotional distress, mood disturbances, worry about recurrence, and concerns about well-being (Kelly, Faught, & Holmes, 1999; Rudy, Rosenfeld, Galassi, Parker, & Schanberg, 2001; Samarel, Tulman, & Fawcett, 2002). Women's responses to telephone support have not been described. One report suggested limited effects on these outcomes in women who received either telephone support or educational materials only (Samarel et al., 2002).

To provide some clarity about the most effective method for conducting support groups, Helgeson et al. (1999) conducted a clinical trial comparing effectiveness of education-based and peer-discussion-based group interventions on adjustment to breast cancer. Educational interventions were found to increase psychological and physical functioning, whereas peer discussions had a negative effect on vitality and affect. Subsequent analysis of the findings examined the extent to which social and family variables moderated the effects of an information-based educational group and an emotion-focused peer-discussion group on the mental and physical functioning of the women (Helgeson et al., 2000). Women with fewer support structures or fewer personal resources were found to experience greater benefits in their physical functioning by participating in information-based education groups. Peer-discussion groups also were found to be helpful for women who lacked social support but not for those who already had high levels of social support. Three-year follow-up of subjects continued to find that women assigned to the information-based, education-only group retained higher levels of vitality, lower levels of body pain, and higher levels of physical functioning than women assigned to the emotion-focused discussion group. No benefits of the peer-discussion intervention were detected on any measurement (Helgeson et al., 2001).

Samarel, Fawcett, and Tulman (1997) examined the effect of the addition of coaching by significant others to the more traditional support-group format for women recently diagnosed with breast cancer. Women who received coaching showed temporary improvement in the quality of the relationships with their significant others. Despite limited benefits based on responses to outcome measurements, women reported that their perceptions about living with cancer were improved following participation in a support group, believed that it was a beneficial experience, and indicated that support should continue for at least a year after diagnosis. The article by Samarel et al. (1997) is one of the few reports available regarding women's perspectives of how participation in a support group affected their adjustments to living with cancer.

A surge of interest has occurred in providing social support as well as education to women using alternative delivery modalities to in-person group sessions for a variety of reasons, including illness limitations, geography, and cost (Samarel et al., 2002; Sandgren & McCaul, 2003; Sandgren, McCaul, King, O'Donnell, & Foreman, 2000). Use of the telephone to provide such services is one alternative (Donnelly et al., 2000; Hoskins et al., 2001; Marcus et al., 1998, 2002; Samarel et al., 2002). However, reports are varied regarding the benefits to patients on outcomes such as self-efficacy, knowledge, interpersonal relationships, and physical, psychosocial, and social adjustment.

Donnelly et al. (2000) reported on 14 patients' and 10 partners' perceptions of interpersonal therapy. Participants rated their satisfaction with the program of weekly sessions throughout chemotherapy for breast cancer as "excellent" to "good." The lowest satisfaction was reported with the use of a questionnaire and assessment interviews and the use of the telephone for therapy sessions. The therapist was satisfied with the telephone-delivered treatment because of the convenience of scheduling with either member of the dyad regardless of geography, ease of ability to expand or contract length of sessions, and enhanced understanding that came from working over time with a dyad. Questions that remain unanswered include participants' views on their control of the timing of sessions, convenience of scheduling, and privacy and confidentiality concerns. Nor were patients asked about whether they perceived the mode of therapy helpful in their recovery.

Sandgren et al. (2000) studied the effects of telephone-administered cognitive therapy using a "decreasing dose" of weekly calls for four weeks then every other week for six sessions until 10 telephone-based therapy sessions were completed. Each session lasted an average of 20–25 minutes. The sample was drawn from the midwestern portion of the United States. Although 96% of the participants reported being comfortable with telephone therapy, no statistical differences were found between the therapy group and control group on measurements of coping, mood, and quality of life. Thus, no consistent findings exist in the literature on the frequency and amount of telephone support or education needed to effect positive outcomes on a variety of outcome measurements. Therefore, the topic requires further study.

Hoskins et al. (2001) conducted a feasibility study to compare the effectiveness of three different forms of providing education and counseling to patients with breast cancer and their partners over time. The interventions were standardized education via videotape, telephone counseling, and education plus telephone counseling. The four telephone counseling sessions were designed to occur at specific points of time across the treatment trajectory (diagnosis, postsurgery, during adjuvant therapy, and recovery); the length of each call was not described. Use of the standardized education videotape resulted in significant improvement in outcomes measurements by both members of the dyads. The pilot study did not find that adding counseling by telephone to the educational videotape improved the treatment effect. This may be a result of the relatively small sample and limited statistical power inherent in the feasibility study. However, findings did validate the important role that education has on adaptation to breast cancer.

The need for education and medical information also was validated by a report from the Cancer Information and Counseling Line (Marcus et al., 2002) after examination of call records for a 12-month time period. The authors found

that 77% of initial calls were requests for medical information and education but that only 12% of callers sought counseling. However, by the time the calls were completed, 67% of callers had received some counseling. The benefits to outcomes such as mood, quality of life, and social support were not reported.

Samarel et al. (2002) conducted a three-phase, three-armed, randomized clinical trial to test the relative effectiveness of (a) in-person group and telephone education and counseling, (b) telephone-only education and counseling, and (c) a one-time mailing of educational materials. Both groups that received the telephone interventions achieved statistically significant improvements in mood disturbance, loneliness, and relationship quality when compared to the control group. The findings suggest that telephone support combined with education is as effective as in-person support groups and is a cost-effective way to provide support and education to women diagnosed with breast cancer.

Sandgren and McCaul (2003) found no treatment effects on quality of life and mood for 222 women receiving one of two time-limited, structured interventions after diagnosis with breast cancer: telephone-delivered emotive expression therapy or telephone-delivered breast cancer health education. Each intervention consisted of five weekly, 30-minute telephone calls with a sixth follow-up call three months later. The hypothesis was that each type of therapy would improve mood and quality of life as compared to a control group. Although no treatment effects were found, women who received the health educational telephone intervention reported greater perceived control and greater knowledge than women who received the emotive expression intervention. Although the telephone may not be an effective method for the delivery of emotional therapy, it may be an effective way to provide education about breast cancer to newly diagnosed women.

In summary, evidence is inconsistent regarding the benefits of telephone support and education. Limited evidence exists regarding patients' perceptions of benefits of educational and therapy sessions delivered by telephone and their beliefs about how social support provided using such methods assisted in their recovery from cancer. The lack of data about perceptions is a critical gap in the knowledge of the psychosocial treatment of patients with breast cancer. This article presents qualitative data from interviews of women who participated in a randomized clinical trial of the effectiveness of a telephone support intervention for one year on adaptations to breast cancer. The quantitative findings of the study have been reported elsewhere (Coleman et al., 2005).

Methods

Sample

The study sample was from the Arkansas sample in the original study (Coleman et al., 2005). The women had entered the original study two to four weeks after surgery for nonmetastatic breast cancer and were assigned randomly to an experimental or control group. The experimental group received 13 months of telephone social support and education. Both groups received educational materials via a mailed resource kit.

Data Collection

Follow-up telephone interviews were conducted immediately following the 13-month intervention and final data-collection point of the larger study by non-nurse research assistants trained by the principal investigator. The interviewers had not

had any prior interactions with the participants. A standardized interview schedule was used for the interviews (see Figure 1). Each interview was recorded on audiotape and transcribed for analysis. Interviews lasted an average of 10–15 minutes.

Data Analysis

Content analysis was used to examine the responses of participants to the telephone interviews (Neuendorf, 2002). First, responses to interview questions were separated according to original study-group membership. Next, each interview transcript was read multiple times to get a sense of the data. Then categories were identified based on the intent of the questions (e.g., did attitude improve, stay the same, or worsen?), and a frequency count for answers to each question was conducted. Finally, percentages of responses to questions based on original study groups were computed. Counting was performed by a single researcher with review of findings by another researcher, leading to reliability of findings. Comments illustrative of each question's response set were selected to illustrate participants' perceptions of their participation in the study.

Results

Of the 106 subjects who participated in the larger study (Coleman et al., 2005), 77 participated in a follow-up telephone interview. Of the 77 women, 35 had been in the experimental group of the study and received one year of telephone support following diagnosis of breast cancer as well as a one-time mailing of educational materials; 42 had been in the control group and received only a one-time mailing of the same educational materials. No significant differences existed between the two groups of interviewed women in age, marital status, educational level, employment status, or type of surgical treatment or adjuvant treatment (see Table 1). Twenty-nine participants were lost to follow-up. Interviewers made no notations as to why those women did not participate in the follow-up telephone call. Analysis of demographic data indicated no significant differences between the 29 women and the 77 who did participate in the follow-up telephone call on the variables of age, ethnicity, number of children, education, marital status, time since surgery, stage of cancer, type

1. Since your breast cancer diagnosis, has your attitude toward your illness improved, become worse, or stayed the same? (If patient reports a change, follow up.) What changed regarding your illness?
2. Since your breast cancer diagnosis, are you feeling better or worse emotionally, or have things pretty much stayed the same? (If patient reports a change, follow up.) What changed emotionally?
3. Since your breast cancer diagnosis, are you feeling better or worse physically, or have things pretty much stayed the same? (If patient reports a change, follow up.) What changed physically?
4. Since your breast cancer diagnosis, are you doing more or less in your day-to-day activities?
5. Compared to before you had breast cancer, have your relationships with family and friends improved, become worse, or pretty much stayed the same? (If patient reports a change, follow up.) Can you tell me more about how your relationships changed and with whom?
6. What else has changed in your life since your diagnosis?
7. Is there anything you would like to say about the project that we should know?

Figure 1. Interview Guide

Table 1. Sample Demographics

Variable	Experimental Group (N = 35)		Control Group (N = 42)	
	n	%	n	%
Mean age (years)				
Experimental group = 57	—	—	—	—
Control group = 59	—	—	—	—
Race				
Caucasian	28	80	36	86
African American	6	17	6	14
Native American	1	3	—	—
Annual household income (\$)				
< 10,000	4	11	3	7
10,000–20,000	5	14	8	19
20,001–30,000	7	20	8	19
30,001–40,000	4	11	5	12
40,001–50,000	3	9	4	10
> 50,000	12	34	14	33
Employment status				
Homemaker	6	17	13	31
Retired	10	29	11	26
Employed	15	43	14	33
Unemployed because of illness	4	11	3	7
Unemployed for other reasons	—	—	1	2
Marital status				
Married or in partnered relationship	23	66	30	71
Never married	1	3	1	2
Separated	—	—	1	2
Divorced	7	20	6	14
Widowed	4	11	4	10
Breast cancer stage (tumor, node, metastasis)				
0 (in situ)	5	14	3	7
1	7	20	16	38
2	13	37	11	26
3	8	23	4	10
Missing data	2	6	8	19
Type of surgery				
Lumpectomy	9	26	15	36
Mastectomy	26	74	26	62
None	—	—	1	2
Chemotherapy (phase 2)				
Yes	19	54	12	29
No	16	46	29	69
Missing data	—	—	1	2
Radiation (phase 2)				
Yes	3	9	1	2
No	32	91	40	95
Missing data	—	—	1	2
Hormonal therapy (phase 2)				
Yes	5	14	13	31
No	30	86	28	67
Missing data	—	—	1	2

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

of surgical procedure, or adjuvant therapy at all phases of the study. Table 2 provides responses by treatment groups to the follow-up questions, demonstrating the effects on attitudes, emotional status, and physical and relationship status.

Attitude Toward Illness

Participants were asked whether their attitudes had improved, stayed the same, or worsened since diagnosis. Overall,

37 of the 77 individuals indicated that their attitudes toward their illness had improved, 38 indicated that they had stayed the same, 1 indicated that her attitude was worse, and 1 did not respond. Of the women who had received the telephone support intervention, 54% reported improvement in attitude, whereas only 43% of the interviewed women in the control group reported improvement.

Comments about their attitudes toward the illness included mention of the importance of the intervention of telephone support: “I would have to say it improved because of the telephone link. That was extremely important. I could not underscore that enough.” Four other participants mentioned the importance of the telephone support in facilitating their adjustment to living with breast cancer: “I’ve enjoyed having [nurse’s name] to talk with. . . . It was very uplifting.” Another said, “Others just had the literature to read, and that’s fine, but I had the nurse, and anything I had to talk about and needed to ask, she would get me the answer if she didn’t know it. . . . Just having someone there to talk with helped me.” A woman in the control group indicated that “some of the questionnaires kind of gave you pause to think and try to concentrate on, ‘Is this really bothering me?’” The thought process helped her work through her issues with living with breast cancer and helped improve her attitude toward living with the disease.

Emotional Status

Almost all of the respondents indicated that their emotional states were unchanged or improved since diagnosis. An equal percentage of women in each group (43%) reported improvement in emotional status, and about 50% in each group reported that emotional status was unchanged. Only three participants, all in the control group, reported worsened emotional status. Two of them indicated that they had additional health problems, and the other was concerned about having no definitive cure for breast cancer. Two participants in the telephone support group declined to answer the question.

Physical Status

Participants were asked about their perceived physical status since diagnosis. Thirty-eight women indicated that physical status had improved since diagnosis, 33 indicated that physical status was unchanged, and 6 indicated it was worse. The percentage of those reporting improved or unchanged physical status was about equal in each group. Those who indicated that they perceived worsened physical status since diagnosis related it to fatigue or other health problems, including one woman who had just been diagnosed with colon cancer.

Involvement in Activities

Participants also were asked about their day-to-day levels of activity since diagnosis. The majority of participants in both groups (25 from the experimental group, 32 from the control group) indicated that their levels of involvement in activities remained the same or increased. Ten from each group indicated that their levels of activity had decreased since diagnosis, with fatigue being the most commonly reported reason for the decrease.

Relationships With Family and Friends

In response to questions about relationships with family and friends, most women responded in terms of their relationships with their spouses. Overall, 32 of the 77 women indicated that

Table 2. Responses to Follow-Up Questions

Question	Experimental Group (N = 35)		Control Group (N = 42)	
	n	%	n	%
Attitude				
Better	19	54	18	43
Same	14	40	24	57
Worse	1	3	—	—
Not applicable	1	3	—	—
Emotional status				
Better	15	43	18	43
Same	18	51	21	50
Worse	—	—	3	7
Not applicable	2	6	—	—
Physical status				
Better	17	49	21	50
Same	15	43	18	43
Worse	3	8	3	7
Activity level				
Better	7	20	5	12
Same	18	51	27	64
Worse	10	29	10	24
Relationship status				
Better	16	46	16	38
Same	18	51	25	60
Worse	1	3	1	2

their relationships had improved, 43 indicated that their relationships were the same, and 2 indicated that they were worse. Sixteen (46%) participants in the intervention group reported improved relationships compared to 16 (38%) in the control group. Several women from each group commented that they had deeper appreciation for their husbands and that they had worked through their feelings about the diagnosis together. One participant in the control group indicated that her relationship with her husband had worsened since diagnosis, that he touched her less and “had less to do with me physically.” A woman who received telephone support reported similar issues with her husband. She stated that he showed her in other ways that he still loved her but wouldn’t touch her.

Life Changes

When asked, “What else in your life has changed since your diagnosis?” women from both groups indicated that the diagnosis of cancer had caused them to review their lives and make changes in their relationships and activities. Of the 42 women in the control group, 11 indicated that their participation in the study had helped them get in touch with their feelings and had improved their outlooks toward life, whereas only 4 in the telephone intervention group had a similar response. Three women in the control group and one in the telephone intervention group said that they “live for today.” Women in both groups commented on their faith in God, indicating that faith and prayer had been sources of strength for them. Two women in the telephone intervention group said that their faith in God had increased; no similar reports came from women in the control group. A woman in the control group said, “I’m on a slower pace now. I spend time meditating and journaling. I set aside time for play, and that’s different than just work all the time.”

Perceptions of the Telephone Intervention

Interview transcripts also were analyzed for women’s perceptions of benefits received from being in the telephone intervention group. Fifteen of the 35 participants in the group mentioned receiving a positive benefit from speaking to the intervention oncology nurses. They reported that the perceived benefits from participation in the study came from being asked to reflect on their emotional, physical, and relationship status. The introspection was beneficial for several participants because they felt as though they had permission to express their feelings about their diagnosis, which led to a deeper awareness of self, their attitudes toward their illness, and their relationships with family members. One woman indicated that responding to the questionnaires was almost like journaling in that it made her think about her priorities. Other positive comments came from the knowledge gained from the educational booklets and videos that also were sent to the women in the telephone intervention group. Several women reported that the materials gave them a sense of control, kept them focused, and helped them formulate questions for their healthcare providers. However, no one from the control group who received the same mailed educational materials mentioned any counseling or support from nurses in any clinical setting that was helpful in assisting them to adapt to living with breast cancer.

Negative comments about participating in the study mostly were related to the repetitive nature of the questions. One woman said, “I did not get anything out of filling out those forms; the repetition was boring.” Another found that the questions were depressing. Additionally, the relaxation video was found to be offensive to one participant, who indicated that the message conflicted with her religious beliefs.

Discussion

The findings of the analysis complement the quantitative findings of the larger study (Coleman et al., 2005), which explored women’s perceptions of the impact of breast cancer on their lives and the perceived benefits of support delivered by telephone during the year after diagnosis. Overall, the current analysis indicated that a greater percentage of women who received the yearlong telephone support intervention delivered by oncology nurses plus mailed educational materials perceived improvement in their attitudes toward living with breast cancer. They also perceived better relationships with their significant others after participating in the study. The findings differed from women who received only the educational materials, who did not report perceptions of improved attitudes toward living with cancer or improvement in their relationships with their significant others. No differences existed between the groups in perceptions of emotional or physical status.

The findings reinforce a previous report (Samarel et al., 2002) that found that women who received telephone support and education alone or in combination with in-person support groups had improved mood and relationships than those who received only mailed educational materials. In the current study and the one reported by Samarel et al. (2002), oncology nurses played a key role in providing support and education to women newly diagnosed with breast cancer. The findings emphasize the critical role that nursing-sensitive outcomes (NSOs) have on the lives of women living with breast cancer and suggest that traditional roles of nurses in providing patient education can have positive effects on patient outcomes. NSOs are the

consequences of nursing interventions and thus are the activities on which nurses have a direct impact (Given et al., 2003).

Reports of improved attitudes, although not significantly different between the two groups, are consistent with other anecdotal reports (Sandgren et al., 2000) that telephone counseling and education had a positive impact on women's attitudes toward living with breast cancer. Women reported being comfortable sharing deep fears and issues regarding intimacy that they might not have shared in a group format. Similar reports of improved emotional status in each group of women in the current study may reflect expected changes over time as women move through the process of adjusting to living with breast cancer. The notion of process in adjusting to breast cancer has been reported elsewhere (Marcus et al., 1998; Wilmoth, 2001) and merits further study about what types of support and education at what points in time lead to improved emotional outcomes.

Women in both study groups reported improvement in their physical status over the course of the study and few changes in their activity levels. Although the intervention may have played a role in improved physical status, the results may reflect the benefits of time and recovery from treatment side effects. How telephone education and support affect physical well-being merits further study. Other reports (Helgeson et al., 1999; Marcus et al., 2002; Samarel et al., 2002) have shown that the need for information about symptom management continues to be paramount for patients and their families. The role of nurses in providing education cannot be emphasized enough.

Diagnosis of breast cancer, as well as other cancers, often has been reported to be a life-changing event that can have an unintended positive impact in life. This was true for many of the women in the study. Why it was reported in more women in the control group than in the experimental group is not known. However, in reviewing the women's comments, the women in the experimental group verbalized that they shared their thoughts with the nurses who called them and did not indicate that they spent time journaling or engaging in other reflective activities about how breast cancer had affected their lives. Benefits from journaling and letter writing in helping women adjust to breast cancer and changes in body appearance have been reported to be helpful and merit further study (Rancour & Brauer, 2003).

Factors needing further research are the frequency and length of telephone support and education necessary to have positive effects on patient outcomes. Samarel et al. (2002) found that weekly telephone calls for 8–10 weeks, lasting 5–45 minutes, followed by twice monthly calls, then reduced to monthly calls, resulted in improved outcomes on mood and relationships in a sample of women in the northeastern portion of the United States. Coleman et al. (2005) studied the role that telephone support and education had on outcomes of emotional and interpersonal adaptation to breast cancer in a sample of women from the deep south using a similar regimen of follow-up. However, no significant differences were found between the group receiving intense telephone follow-up and those receiving educational materials only. The reasons for the differences were not clear; however, the authors suggested possible regional differences in the types of support and education needed.

Almost half of the women in the study who received the experimental intervention of telephone support talked about the importance of the telephone calls and how their relationships with "their" nurses had a positive impact on their adjustment to living with breast cancer. Participants perceived that they gained a great deal at that critical time in their lives by having nurses

act as educators and advocates. However, not all of the women in the group reported a benefit from the telephone calls. Two reasons may explain this. First, several participants indicated that they were past the point of needing the telephone support provided by nurses and, therefore, may have not perceived the calls as helpful. Thus, the receipt of information and follow-up may have occurred beyond the time that it was needed. Second, not all women may need or want this type of intensive follow-up. Some may have other ways of obtaining the type of support and information provided by the calls. However, women who are more isolated, either geographically or emotionally, and those having difficulty coping with diagnosis and treatment side effects may perceive more benefit from telephone follow-up. This is an area that requires further study. None of the women who received only the educational materials mentioned receiving support from nurses or how nurses might have helped them adapt to living with breast cancer. Based on the interviews, patients appear to benefit when nurses are actively engaged in their roles as patient educators and advocates.

Providing patients with information and assisting them in coping with cancer are integral to the role of nurses and are mandated by the *Statement on the Scope and Standards of Oncology Nursing Practice* (Brant & Wickham, 2004). Furthermore, the standards of care can be translated into NSOs for patients who are directly affected by how nurses carry out their jobs. Two categories of NSOs are holistic indicators such as functional health status, mental health, and patient and family satisfaction, as well as psychosocial outcomes, including mood and relationships (Given et al., 2003). The findings from the current study suggest that telephone support of patients with breast cancer coupled with educational materials appears to enhance NSOs in the holistic and psychosocial realms.

One limitations of the current analysis is the structured nature of the interview questions, which led to brevity of the telephone interviews. Many participants provided very short answers to the questions, thus limiting analysis and interpretation of data. Another limitation is data missing from 29 subjects; their perceptions about their emotional and interpersonal adaptations to breast cancer were not available for analysis. However, the results still corroborate the findings from the larger study and add evidence that perceptions are an important factor in adaptation to chronic illness. Having non-nurse research assistants conducting study follow-up may be perceived as a study limitation. However, their only role was to assess perceptions of benefits of study participation using a structured interview format, not to provide education. Thus, their involvement was not perceived to be a study limitation in this analysis.

Women newly diagnosed with breast cancer need and want support and educational information to help them cope with the crisis in their lives. Easy access to support and information at the time they want them appears to be important in their adjustment process. They also perceive that access to nurses who can assist them in clarifying treatment issues and side effects helps them to have positive attitudes about living with breast cancer and enhances their relationships with significant others. Providing women with the support and information they need to live successfully after diagnosis of breast cancer is within the scope and standards of oncology nursing practice.

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