

Supportive Care for Taiwanese Women With Suspected Breast Cancer During the Diagnostic Period: Effect on Healthcare and Support Needs

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Breast cancer is the most common cancer among women in Taiwan, accounting for 9% of all cancers in women (Department of Health [DOH], Executive Yuan, 2007). During the diagnostic period for suspected breast cancer, both Western and Taiwanese women need not only the diagnosis confirmed as soon as possible, but also information and emotional support to alleviate psychological distress (Liao & Chen, 2006; Liao, Chen, Chen, & Chen, 2007; O'Mahony, 2001) and to help them adapt (Drageset & Lindstrom, 2005; Fridfinnsdottir, 1997; Shaw, Wilson, & O'Brien, 1994). However, little is known about the effect of information and emotional support on the psychological needs of women with suspected breast cancer during the diagnostic period because most studies have focused on the breast biopsy period (Palese, Comuzzi, & Bresadola, 2005).

In Taiwan, regulations for hospital accreditation (DOH, Executive Yuan, 2008) and cancer prevention policy (DOH, Executive Yuan, 2005a) acknowledge the importance of client-oriented health care. However, medical reimbursement policies in Taiwan encourage hospitals to pay more attention to disease treatment and to care for patients with confirmed breast cancer. Therefore, Taiwanese women with suspected breast cancer are not offered information and emotional support or continuous care during the diagnostic period.

Literature Review

Needs of Women With Suspected Breast Cancer During the Diagnostic Period

Need is a multifaceted concept for a feeling experienced when subjective perceptions are inconsistent with a desired state (Endacott, 1997). Needs change with time and are influenced by personality, environment, and social factors (Fitch, 1994). During the diagnostic period, Western and Taiwanese women with suspected breast cancer need emotional support, reassuring health care,

Purpose/Objectives: To investigate the effect of supportive care on healthcare and support needs for women with suspected breast cancer during the diagnostic period.

Design: A quasiexperimental design with two nonrandomly assigned groups.

Setting: Two general surgery outpatient departments at a large teaching hospital in Taiwan.

Sample: Experimental and control groups included 62 and 60 women with suspected breast cancer, respectively.

Methods: The experimental group received supportive care, including health education pamphlets regarding breast cancer diagnosis and treatment; three sessions of individual, face-to-face health education and emotional support; and two follow-up telephone counseling sessions. The control group received routine care. Data were collected upon notice of need for breast biopsy, before biopsy, and after biopsy results were revealed.

Main Research Variables: Healthcare and support needs.

Findings: Levels of healthcare and support needs before breast biopsy and after results were revealed were significantly lower for the experimental group than the control group. Supportive care and biopsy results predicted healthcare and support need levels after diagnosis confirmation, explaining 57% of the total variance.

Conclusions: Supportive care incorporating information, emotional support, and continuous follow-up care improved the degree to which women with suspected breast cancer perceived that their healthcare and support needs were met.

Implications for Nursing: Supportive care, when individually designed and culturally sensitive, can help clinical nurses improve quality of care for clients with suspected breast cancer during the diagnostic period.

and information and support from their friends, family, and healthcare professionals (Fridfinnsdottir, 1997; Liao & Chen, 2006; Liao et al., 2007; Northouse, Tocco, & West, 1997). Thus, healthcare professionals must not only shorten the diagnostic period and guarantee diagnostic accuracy, but also discuss the diagnosis with patients respectfully and compassionately (Liao & Chen; O'Mahony, 2001).

In a study by Liao et al. (2007), the top healthcare and support needs of Taiwanese women with suspected breast cancer during the diagnostic period were healthcare services for diagnosis, follow-up, and consultation, as well as information about the disease. For the women in the study, the need for disease and treatment information came before emotional support, likely as a result of cultural influence (Kagawa-Singer & Wellisch, 2003). In Taiwan, 74% of patients have average visits lasting fewer than 10 minutes (DOH, Executive Yuan, 2005b), so doctors often have insufficient time to offer detailed information or explanations. Therefore, women have a high need for follow-up and consultation during the diagnostic period.

Supportive Care for Patients With Breast Cancer

Assessing individual needs: Supportive care is defined as an attitude or role that facilitates interpersonal relationships or physical and psychosocial well-being to fulfill individual needs (Byrne & Sebastian, 1994). Continuously evaluating the care needs of Australian patients with breast cancer was the foundation for supportive care to reduce their psychological and emotional needs (Aranda et al., 2006). Each patient has different preferences for information and different ways of managing information. Thus, individualized information and emotional support were found to be necessary to improve the psychological status of Western patients (McPherson, Higginson, & Hearn, 2001; Ross, Boesen, Dalton, & Johansen, 2002).

Telephone follow-up and consultation: For practical reasons, psychosocial support is not provided routinely to patients and families. Therefore, telephone consultation is an accessible support channel for patients with cancer (Gotay & Bottomley, 1998). Indeed, when breast care nurses provided telephone follow-up to British patients three months after surgery, patients were significantly more satisfied with information needs being met than patients without telephone follow-up (Beaver, Twomey, Witham, Foy, & Luker, 2006). Furthermore, four weeks to six months of interactive programs combining information support, psychological and emotional support, and consultation positively influenced the psychosocial well-being of Western and Japanese women with breast cancer (Helgeson, Cohen, Schulz, & Yasko, 1999; Miyashita, 2005; Rawl et al., 2002), and individual telephone support was as effective as support groups in a U.S. sample (Samarel, Tulman, & Fawcett, 2002).

Supportive care during the breast biopsy period: Patients with cancer prefer receiving disease-related information from nurses, primarily because nurses use simple, easy-to-understand language (Lundberg & Trichorb, 2001) and can communicate effectively with other care departments and coordinate resources to

ensure continuous care (Deane, 1997). The psychosocial needs of U.S. women who required breast biopsy were met by goal-directed, supportive communications provided by collaborating oncology clinical nurse specialists and ambulatory surgery nurses (Barrere, 1992). The emotional distress of Italian women after breast biopsy results was reduced when they received continuous information and emotional support from a nurse case manager (Palese et al., 2005).

In summary, supportive care for patients with breast cancer can be improved with psychosocial support programs lasting at least four weeks and with information and education in face-to-face discussions or by telephone. However, no study has investigated the effect of supportive care on the needs of women with suspected breast cancer during the diagnostic period.

Thus, the current study investigated the effect of supportive care on healthcare and support needs for Taiwanese women with suspected breast cancer during the diagnostic period. The researchers hypothesized that women who received the intervention program would have lower need levels than the control group.

Methods

Ethical Considerations

The study was approved by the institutional review board of the study hospital. All participants were informed of the study objective and procedures before recruitment. Participants were guaranteed that all questionnaires would be processed confidentially. After confirming that they understood everything, participants signed consent forms.

Setting

Women were recruited from the general surgery outpatient departments of two hospital divisions at a medical center in northern Taiwan. To prevent the two groups from sharing information (contamination of results), participants from divisions A and B were assigned to the experimental and control groups, respectively. The two divisions had the same breast cancer diagnostic procedures and doctors. Nurses working in the two divisions did not differ significantly in educational level, work experience, or work years.

Participants

Women were recruited by convenience sampling to include those receiving needle core, Mammotome® (Ethicon Endo-Surgery, Inc.), or surgical biopsies. Inclusion criteria were women (a) at least 18 years old; (b) suspected of having breast cancer via examination or image findings without history of cancer or chronic disease; (c) without history of psychiatric diseases nor

currently in psychiatric treatment or on sedatives, antidepressants, or anti-anxiety medications; (d) able to read and speak Chinese or Taiwanese; and (e) able to receive follow-up via telephone.

Of 171 eligible women, 145 were recruited from October 2006 to April 2007. Of those, 23 did not complete questionnaires because of anxiety ($n = 4$) or because they did not return for scheduled biopsy ($n = 19$), yielding a dropout rate of 16%. The sample included 62 and 60 participants in the experimental and control groups, respectively. Most women received surgical breast biopsy with regular histologic or frozen diagnosis (experimental: 61%, control: 60%) and were diagnosed with breast cancer (experimental: 52%, control: 63%). The average diagnostic periods for the experimental and control groups were 10.18 days (range = 4–28 days, standard error = 0.82) and 10.02 days (range = 3–41 days, standard error = 0.84), respectively. None of those variables differed significantly.

Design

In this quasiexperimental study, participants were nonrandomly assigned to experimental or control groups based on the hospital division they visited. The experimental group received supportive care; the control group received regular care. Data were collected longitudinally with structured questionnaires.

Supportive Care

The intervention consisted of an evaluation of participants' healthcare and support needs, appropriate health education pamphlets, three face-to-face individual meetings, and two telephone calls. The program provided information support, emotional support, and continuous follow-up care.

Information support was designed to educate participants about breast cancer diagnosis, the disease, and treatment, thus strengthening their cognitive schema. The standardized health education pamphlets and nurses' explanations prevented or corrected any imbalance between patients' perceptions of the disease and facts. Face-to-face health education, explanations, and telephone consultations allowed patients to clarify their questions without time pressures or space constraints. Three health education pamphlets were based on the needs of women with suspected breast cancer during the diagnostic period (Liao et al., 2007). *Breast Biopsy* describes procedures and places to get all kinds of breast examinations, compares types of breast biopsy, explains the time needed for biopsy results, and discusses emotional adaptation. *Breast Tumor* compares benign and malignant breast tumors and describes treatment of benign tumors and follow-up, as well as risk factors for breast cancer. *Breast Cancer Treatment* discusses the stages and treatment of breast cancer, follow-up care,

and check-ups after treatment, as well as information about professional healthcare resources and patient support groups.

Emotional support helped patients to adapt while facing the stress of possible breast cancer. Emotional support included encouraging patients and their families to express feelings; offering support via listening, comforting, and sympathizing; and teaching emotion-management skills. In face-to-face sessions with a research assistant (RA), participants were encouraged to bring a significant other. The RA actively listened to the women's concerns, encouraged them to express their feelings and ask questions, offered empathy and support, and provided instruction to significant others on how to support participants.

Continuous follow-up care and consultation gave participants an opportunity to communicate with doctors and nurses, thus increasing patients' supportive resources. Such care offered patients an accessible consultation channel, reminded patients of doctor appointments, and arranged times for them to talk with doctors.

Face-to-face supportive care was provided when participants were informed they needed a biopsy, before biopsy, and after they learned the results. Telephone calls were made on the second day after participants learned about the need for biopsy and the day before biopsy. The intervention program was implemented by the same trained RA.

Routine Care

Routine care included information support, emotional support, and referral services. After participants learned that they needed a biopsy, they received information on how to prepare for breast biopsy and emotional support. After benign diagnoses, patients received information about breast self-examination and follow-up by a clinic nurse. After malignant diagnoses, participants received health education pamphlets, education about breast cancer treatment, and emotional support from a case manager. No other interventions were provided.

Instruments

Personal data sheet: The data sheet had three parts. The first asked about social and demographic data (i.e., age, marital status, educational level, religion, and family and friends to talk with). The second part asked about personal experience and history of breast disease, including caring for family members with cancer, history of benign breast tumor, experience of breast biopsy, regular breast self-examination, breast pain, breast discharge, and other symptoms. The third part asked about family history of breast disease (i.e., family history of benign breast tumor, family members' breast biopsy experiences, and family members' breast cancer history).

Suspected Breast Cancer Patient's Needs Questionnaire-Modified (SBCP-NQ-m): The SBCP-NQ-m was modified from the 40-item SBCP-NQ (Liao et al., 2007), which measures satisfaction with healthcare and support needs by women with suspected breast cancer during the diagnostic period. The SBCP-NQ showed satisfactory internal consistency reliability and construct validity (Liao et al.). The SBCP-NQ was modified to the current study's objective (i.e., to develop and evaluate the effects of a supportive care program on the needs of women with suspected breast cancer during the diagnostic period). Therefore, the SBCP-NQ-m omitted three items about companionship and five items about emotional support from family and friends. Another two items ("medical staff provides consultation and follow-up after the examination" and "designate a staff member to provide consultation and follow-up after the examination and treatment") were combined to "designate a staff member to provide me and my family with telephone consultation." The final SBCP-NQ-m has 31 items.

- Treatment information (eight items)
- Disease information (seven items)
- Emotional support (three items)
- Healthcare services for diagnosis (five items)
- Follow-up and consultation (three items)
- Involvement of family and friends (three items)
- Resources (two items)

Cronbach α of the SBCP-NQ-m in the current study was 0.93.

The SBCP-NQ-m is a self-administered questionnaire with responses rated on a Likert scale of zero (no need or not applicable), one (no need or satisfied), two (low need), three (moderate need), and four (high need). Total scores range from 0–124, with higher scores indicating higher need levels (i.e., less healthcare and support received than desired).

The content validity of the SBCP-NQ-m was evaluated by seven experts in cancer or cancer-related issues, including a surgeon, a psychiatrist, a breast cancer case manager, and four nurse instructors in oncology. Each SBCP-NQ-m item was evaluated on a four-point scale for importance and wording. The content validity indexes (CVIs) for importance and wording of the SBCP-NQ-m were 1 and 0.43–1, respectively. Based on this evaluation and a criterion of CVI more than 0.86, the SBCP-NQ-m items were amended in terms of wording.

Data Collection

Baseline data were collected first when a breast lump was found and participants required further breast biopsy (i.e., after the doctor explained the need for biopsy and before the intervention program). The second data set (T1) was collected when participants came back for breast biopsy and after they received continuous supportive care or routine care in the experimental and control groups, respectively. The third data set (T2) was collected

after participants learned the biopsy results and after the intervention program or routine care, respectively.

Data Analysis

The homogeneity of each group, group-time interactions, changes and differences in healthcare and support need levels, predictive factors, and direct effect of supportive care on need levels were evaluated by chi square test, Fisher's exact test, independent t test, one-way and two-way repeated-measures analysis of variance, analysis of covariance, simple linear regressions, and stepwise multiple regressions. Data were analyzed with SPSS® for Windows® 12.0.

Results

Baseline Characteristics of Experimental and Control Groups

Women in the experimental group were, on average, aged 48.10 years (standard error = 1.06), and half were educated at the senior high school level or above. Women in the control group were, on average, aged 50.52 years (standard error = 1.06), and most were educated at the senior high school level or above. Most participants in both groups had religious beliefs, were married or lived with their partners, had family or friends to talk with, and had no history or experience with breast disease and no family history of breast disease. The only significant baseline difference between the two groups was that the experimental group had higher levels of breast discomfort and regular breast self-examination than the control group (see Table 1). Furthermore, participants and dropouts did not differ significantly in baseline characteristics and need levels.

Effect of Supportive Care on Healthcare and Support Need Levels

Baseline need levels of the experimental ($\bar{X}$ = 113.21, standard error = 2.11) and control ($\bar{X}$ = 107.20, standard error = 2.85) groups were not significantly different (t = 1.7, p = 0.09). However, need levels in the two groups showed interaction effects with time (F = 72.01, p < 0.001) (see Figure 1). Therefore, need levels in the two groups were analyzed at different times. The results showed that need levels of the experimental group at T1 and T2 were significantly lower than those of the control group (t = -9.82, p < 0.001 and t = -11.61, p < 0.001, respectively). Moreover, the need level of the experimental group was significantly higher at baseline than at T1 and T2 (F = 168.58, p < 0.001). For the control group, the need level at T1 was significantly higher than at T2 (F = 3.17, p = 0.046).

Because the two groups differed significantly at baseline in breast discomfort and regular self-examination, and because women diagnosed with benign and malignant

Table 1. Demographic and Disease Characteristics

Variable	Experimental Group (N = 62)		Control Group (N = 60)		χ^2	p
	n	%	n	%		
Age (years)	—	—	—	—	0.03	0.86
50 or younger	33	53	31	52	—	—
Older than 50	29	47	29	48	—	—
Educational background	—	—	—	—	3.48	0.06
Junior high school or less	31	50	20	33	—	—
Senior high school or more	31	50	40	67	—	—
Religion	—	—	—	—	0.07	0.8
No	21	34	19	32	—	—
Yes	41	66	41	68	—	—
Marital status	—	—	—	—	0.12	0.73
Single, divorced, separated, or widowed	7	11	8	13	—	—
Married or living with a partner	55	89	52	87	—	—
Family or friends to talk with	—	—	—	—	—	1
No	3	5	2	3	—	—
Yes	59	95	58	97	—	—
Experience of caring for a family member with cancer	—	—	—	—	1.28	0.26
No	48	77	41	68	—	—
Yes	14	23	19	32	—	—
Breast discomfort	—	—	—	—	4.06	0.04
No	28	45	38	63	—	—
Yes	34	55	22	37	—	—
History of benign breast tumor	—	—	—	—	0.27	0.6
No	45	73	46	77	—	—
Yes	17	27	14	23	—	—
Past experience of breast biopsy	—	—	—	—	0.32	0.57
No	53	85	49	82	—	—
Yes	9	15	11	18	—	—
Regular breast self-examination	—	—	—	—	4.87	0.03 ^a
No	51	82	57	95	—	—
Yes	11	18	3	5	—	—
Family history of benign breast tumor	—	—	—	—	0.05	0.82
No	55	89	54	90	—	—
Yes	7	11	6	10	—	—
Past breast biopsy of family member	—	—	—	—	—	0.95
No	55	89	53	88	—	—
Yes	7	11	7	12	—	—
Family history of breast cancer	—	—	—	—	—	0.72 ^a
No	59	95	56	93	—	—
Yes	3	5	4	7	—	—

^a Fisher's exact test

T2 were significantly lower for the experimental group than for the control group ($F = 109.68$, $p < 0.001$ and $F = 124.58$, $p < 0.001$, respectively), indicating that continuous supportive care raised the perceived levels of healthcare and support needs met for women with suspected breast cancer before biopsy and after they learned the results.

Predictive Factors for Healthcare and Support Need Levels

Variables of demographics, personal history and experience of breast disease, family history of breast disease, biopsy method, anesthesia method, biopsy result, and waiting time were analyzed by simple linear regression; the need level after knowing the biopsy result was the dependent variable. Variables with $p < 0.15$ were entered in stepwise multivariate regression for model fitting. The control group and women diagnosed with breast cancer had significantly higher healthcare and support needs (i.e., significantly lower satisfaction). Those variables explained 57% of the total variance after women learned the biopsy result (see Table 3).

Discussion

The results showed that after women received supportive care and after the researchers adjusted

the covariates of regular breast self-examination, biopsy result, and baseline need level, women's healthcare and support need levels before biopsy and after they learned the results were significantly lower for the experimental group than for the control group. The results support the hypothesis that patients receiving supportive care would have a higher perceived degree of having their healthcare and support needs met than those receiving routine care. This improvement in women's perceptions of needs being met was because the program focused on patients' individual needs, continuously assessed their need for information, and provided emotional support consistent with previous research (Aranda et al., 2006; Velikova et al., 2004).

breast tumors have different needs (Liao & Chen, 2006), those three variables were treated as confounding variables. After the researchers adjusted for the covariance of breast discomfort, regular breast self-examination, and biopsy result, the experimental group had a significantly higher baseline need level than the control group ($F = 4.37$, $p = 0.039$). Therefore, baseline need level was treated as a covariate in the homogeneity test. After adjusting for the covariance of regular breast self-examination, biopsy result, and baseline need level, the variance caused by groups was $F = 212.49$ ($p < 0.001$), indicating a group-time interaction effect ($F = 6.71$, $p = 0.011$). Therefore, the need levels of the two groups at T1 and T2 were further analyzed (see Table 2). Overall need scores at T1 and

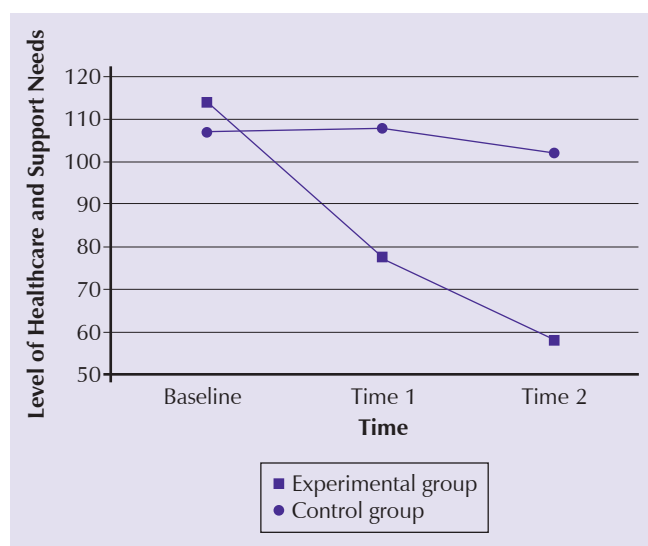


Figure 1. Changes in Healthcare and Support Needs of the Two Groups Over Time

The supportive care program did not change the hospital's diagnostic procedure, but experimental group participants were more satisfied with the supportive care they received at T1 and T2 than the control group. The difference might be because women in the experimental group were told clearly how long and why they were going to wait before diagnosis and were guaranteed that the diagnosis would be accurate and confirmed quickly, thus decreasing their uncertainty. This explanation is supported by a report that the uncertainty of

Taiwanese women with breast cancer was significantly reduced after healthcare professionals continuously provided emotional and informational support (Liu, Li, Tang, Huang, & Chiou, 2006). Similarly, Irish women with suspected breast cancer felt respected and reassured during the diagnostic period when healthcare professionals promised to give an accurate diagnosis (O'Mahony, 2001). Therefore, accurate information and emotional support can reduce patients' uneasiness while they are waiting for diagnostic results.

The researchers found that perceived satisfaction of needs in women with suspected breast cancer was improved by accessible, continuous face-to-face meetings and telephone follow-up consultation offered by trained nurses. This result is consistent with prior reports that uncertainty in patients with breast cancer was reduced and perceived satisfaction of psychological needs was enhanced by nurses providing information and psychological support and continuous telephone follow-up (Aranda et al., 2006; Beaver et al., 2006; Liu et al., 2006; McArdle et al., 1996; Palese et al., 2005). The researchers also found that 39% of participants did not ask any questions during face-to-face health education, and 29% asked two or three questions. In contrast, only 6% of participants in an Australian study (Aranda et al.) did not ask any questions during face-to-face health education, and 71% asked two or three questions. This difference might be explained by cultural differences in illness behavior. Patients in Western societies tend to be proactively involved in decision making, but Chinese people tend to be more respectful of healthcare professionals'

Table 2. Comparison of Need Levels Between the Two Groups Over Time

Variable	$\bar{X}$	Standard Error	F	p	Results
Baseline ^a	—	—	4.37	0.039	Experimental group > control group
Experimental group	114.02	2.52	—	—	—
Control group	108.69	2.02	—	—	—
Time 1 ^b	—	—	109.68	—	Experimental group < control group
Experimental group	78.22	1.98	—	—	—
Control group	108.69	2.02	—	—	—
Time 2 ^b	—	—	124.58	—	Experimental group < control group
Experimental group	59.09	2.52	—	—	—
Control group	100.38	2.57	—	—	—
Experimental group ^a	—	—	61.13	—	Baseline > Time 1 > Time 2
Baseline	113.21	2.12	—	—	—
Time 1	79.26	2.29	—	—	—
Time 2	58.36	2.7	—	—	—
Control group ^a	—	—	3.53	0.033	Time 1 > Time 2
Baseline	107.2	2.87	—	—	—
Time 1	107.62	1.77	—	—	—
Time 2	101.13	2.31	—	—	—

N = 122

^a Covariates of breast discomfort, regular breast self-examination, and biopsy result were excluded.

^b Covariates of regular breast self-examination, biopsy result, and baseline need level were excluded.

Table 3. Predictive Factors for Level of Healthcare and Support Needs After Learning the Breast Biopsy Result

Variable	β	Beta	Standard Error	p	R ²	F
Level of healthcare and support needs	–	–	–	–	0.567	77.91*
Group (experimental)	41.41	0.7	3.57	< 0.001	0.525	–
Biopsy result (benign)	11.68	0.2	3.61	0.002	0.042	–

N = 122

* p < 0.001

Note. Information in parentheses is the reference group.

suggestions (Nilchaikovit, Hill, & Holland, 1993). The cultural difference may inhibit Taiwanese women from proactively asking for help. Therefore, clinicians in Taiwan should proactively inform women with suspected breast cancer about their breast cancer diagnosis or the disease, thus strengthening their cognitive schema.

The supportive care program in the current study was, on average, 10 days in length; prior reports have said that effective information and psychological support programs should last from one to six months (Aranda et al., 2006; Liu et al., 2006; McArdle et al., 1996; Miyashita, 2005; Northouse, Kershaw, Mood, & Schafenacker, 2005; Rehse & Pukrop, 2003; Samarel et al., 2002). The difference might be explained by participants in previous studies having a confirmed cancer diagnosis. Women with breast cancer have different needs at each disease or treatment stage; therefore, intervention programs that are too long cannot focus on patients' needs and may even reduce patients' acceptance of a program because of their physical condition (Scholten, Weinlander, Krainer, Frischenschlager, & Zielinski, 2001). Another reason may be that participants already had high healthcare and support needs before the intervention program, consistent with previous research (Miyashita).

The present study found that group was the most important predictor, explaining 53% of the variance in healthcare and support need levels after diagnosis was confirmed. Therefore, supportive care could improve satisfaction that healthcare and support needs are met for patients with benign or malignant diagnoses.

Limitations

This study had some limitations. Participants were recruited only from the outpatient departments of a large teaching hospital, and women with a history of psychiatric diseases or currently in psychiatric treatment were excluded, limiting generalization of the results. For a more representative sample, future studies should use systematic, large-scale sampling. Participants were not assigned randomly to experimental and control groups because of clinical constraints, possibly resulting in sampling bias. Future studies should use random assignment. A double-blind design was not used.

Participants in the experimental group knew they were receiving special care. They might have responded more positively on the questionnaire because the data collector and program provider gave them extra care in the intervention. A double-blind design could avoid social desirability bias.

Implications for Nursing Practice

Supportive care can meet individual women's needs if a systematic approach is used to assess perceived needs and if interventions are tailored to those needs. To be successful, supportive care must incorporate educational and emotional support, be culturally sensitive, and be linguistically appropriate. Another necessary component is collaboration and communication with women's significant others and clinical professional staff in different breast cancer departments. Telephone consultations and follow-ups are viable ways for women to access specific healthcare professionals. This study shows that continuous, individualized, culturally sensitive, supportive care for women can be provided successfully within the scope of nursing practice.

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References

- Aranda, S., Schofield, P., Weih, L., Milne, D., Yates, P., & Faulkner, R. (2006). Meeting the support and information needs of women with advanced breast cancer: A randomized controlled trial. *British Journal of Cancer*, 95(6), 667–673.
- Barrere, C.C. (1992). Breast biopsy support program: Collaboration between the oncology clinical nurse specialist and the ambulatory surgery nurse. *Oncology Nursing Forum*, 19(9), 1375–1379.
- Beaver, K., Twomey, M., Witham, G., Foy, S., & Luker, K.A. (2006). Meeting the information needs of women with breast cancer: Piloting a nurse-led intervention. *European Journal of Oncology Nursing*, 10(5), 378–390.
- Byrne, C., & Sebastian, L. (1994). The defining characteristics of support: Results of a research project. *Journal of Psychosocial Nursing*, 32(6), 33–38.
- Deane, K.A. (1997). The role of the breast clinic nurse. *AORN Journal*, 66(2), 304–310.
- Department of Health, Executive Yuan. (2005a). The five-year national prevention program for cancer. Retrieved November 17, 2007, from <http://www.bhp.doh.gov.tw/BHPnet/Portal/>
- Department of Health, Executive Yuan. (2005b). *Information on quality of medical health care. Quality of medical health report*. Taipei, Taiwan: Author.
- Department of Health, Executive Yuan. (2007). Cancer registration annual report. Retrieved November 15, 2007, from http://crs.cph.ntu.edu.tw/crs_c/annual.html
- Department of Health, Executive Yuan. (2008). Regulation of accreditation for hospitals. Retrieved September 17, 2008, from http://www.doh.gov.tw/CHT2006/DM/SEARCH_RESULT.aspx
- Drageset, S., & Lindstrom, T.C. (2005). Coping with a possible breast cancer diagnosis: Demographic factors and social support. *Journal of Advanced Nursing*, 51(3), 217–226.
- Endacott, R. (1997). Clarifying the concept of need: A comparison of two approaches to concept analysis. *Journal of Advanced Nursing*, 25(3), 471–476.
- Fitch, M. (1994). *Providing supportive care for individuals living with cancer*. Toronto, Canada: Ontario Cancer Treatment and Research Foundation.
- Fridfinnsdottir, E.B. (1997). Icelandic women's identifications of stressors and social support during the diagnostic phase of breast cancer. *Journal of Advanced Nursing*, 25(3), 526–531.
- Gotay, C.C., & Bottomley, A. (1998). Providing psychosocial support by telephone: What is its potential in cancer patients? *European Journal of Cancer Care*, 7(4), 225–231.
- Helgeson, V.S., Cohen, S., Schulz, R., & Yasko, J. (1999). Education and peer discussion group interventions and adjustment to breast cancer. *Archives of General Psychiatry*, 56(4), 340–347.
- Kagawa-Singer, M., & Wellisch, D.K. (2003). Breast cancer patients' perceptions of their husbands' support in a cross-cultural context. *Psycho-Oncology*, 12(1), 24–37.
- Liao, M.N., Chen, M.F., Chen, S.C., & Chen, P.L. (2007). Healthcare and support needs of women with suspected breast cancer. *Journal of Advanced Nursing*, 60(3), 289–298.
- Liao, M.N., & Chen, P.L. (2006). Women's experience during the diagnostic period of breast cancer. *Journal of Oncology Nursing*, 6(2), 19–29.
- Liu, L.N., Li, C.Y., Tang, S.T., Huang, C.S., & Chiou, A.F. (2006). Role of continuing supportive care in increasing social support and reducing perceived uncertainty among women with newly diagnosed breast cancer in Taiwan. *Cancer Nursing*, 29(4), 273–282.
- Lundberg, P.C., & Trichorb, K. (2001). Thai Buddhist patients with cancer undergoing radiation therapy: Feelings, copings, and satisfaction with nurse-provided education and support. *Cancer Nursing*, 24(6), 469–475.
- McArdle, J.M.C., George, W.D., McArdle, C.S., Smith, D.C., Moodie, A.R., Hughson, A.V., et al. (1996). Psychological support for patients undergoing breast cancer surgery: A randomized study. *British Medical Journal*, 312(7034), 813–816.
- McPherson, C.J., Higginson, I.J., & Hearn, J. (2001). Effective methods of giving information in cancer: A systematic literature of randomized controlled trials. *Journal of Public Health Medicine*, 23(3), 227–234.
- Miyashita, M. (2005). A randomized intervention study for breast cancer survivors in Japan. *Cancer Nursing*, 28(1), 70–78.
- Nilchaikovit, T., Hill, J.M., & Holland, J.C. (1993). The effect of culture on illness, behavior, and medical care. *General Hospital Psychiatry*, 15(1), 41–50.
- Northouse, L., Kershaw, T., Mood, D., & Schafenacker, A. (2005). Effects of a family intervention on the quality of life of women with recurrent breast cancer and their family caregivers. *Psycho-Oncology*, 14(6), 478–491.
- Northouse, L.L., Tocco, K.M., & West, P. (1997). Coping with a breast biopsy: How healthcare professionals can help women and their husbands. *Oncology Nursing Forum*, 24(3), 473–480.
- O'Mahony, M. (2001). Women's lived experience of breast biopsy: A phenomenological study. *Journal of Clinical Nursing*, 10(4), 512–520.
- Palese, A., Comuzzi, C., & Bresadola, V. (2005). Global case management: The "nurse case manager" model applied to day surgery in Italy. *Lippincott's Case Management*, 10(2), 83–92.
- Rawl, S.M., Given, B.A., Given, C.W., Champion, V.L., Kozachik, S.L., Barton, D., et al. (2002). Intervention to improve psychological functioning for newly diagnosed patients with cancer. *Oncology Nursing Forum*, 29(6), 967–975.
- Rehse, B., & Pukrop, R. (2003). Effect of psychosocial interventions on quality of life in adult cancer patients: Meta analysis of 37 published controlled outcome studies. *Patient Education and Counseling*, 50(2), 179–186.
- Ross, L., Boesen, E.H., Dalton, S.O., & Johansen, C. (2002). Mind and cancer: Does psychosocial intervention improve survival and psychological well-being? *European Journal of Cancer*, 38(11), 1447–1457.
- Samarel, N., Tulman, L., & Fawcett, J. (2002). Effect of two types of social support and education on adaptation to early-stage breast cancer. *Research in Nursing and Health*, 25(6), 459–470.
- Scholten, C., Weinlander, G., Krainer, M., Frischenschlager, O., & Zielinski, C. (2001). Difference in patient's acceptance of early versus late initiation of psychosocial support in breast cancer. *Supportive Care in Cancer*, 9(6), 459–464.
- Shaw, C.R., Wilson, S.A., & O'Brien, M.E. (1994). Information needs prior to breast biopsy. *Clinical Nursing Research*, 3(2), 119–131.
- Velikova, G., Booth, L., Smith, A.B., Brown, P.M., Lynch, P., Brown, J.M., et al. (2004). Measuring quality of life in routine oncology practice improves communication and patient well-being: A randomized controlled trial. *Journal of Clinical Oncology*, 22(4), 714–724.