Quality of Life, Social Support, and Uncertainty Among Latina Breast Cancer Survivors

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Purpose/Objectives: To examine the relationship between perceived social support, uncertainty, and their individual and combined effects on quality of life (QOL) among Latina breast cancer survivors.

Design: Descriptive, correlational study.

Setting: Selected private hospitals in Staten Island, Brooklyn, and Manhattan and the American Cancer Society units of Staten Island, Brooklyn, and Queens, New York.

Sample: 89 Latina breast cancer survivors ages 30–86 years.

Methods: Participants completed a personal data sheet, the Social Support Questionnaire, the Mishel Uncertainty in Illness Scale–Community form, and the Ferrans and Powers Quality of Life Index–Cancer Version III at home and returned the questionnaires to the investigators via postage-paid envelope.

Main Research Variables: Perceived social support, uncertainty, and QOL.

Findings: A significant positive correlation was noted between perceived social support and total QOL. A significant negative correlation was found between uncertainty and QOL. Social support predicted 15.1% of QOL variance, and uncertainty predicted 10.4% of additional QOL variance. Together, these two variables predicted 20.5% of QOL variance.

Conclusions: Perceived social support and uncertainty play a pivotal role in managing or maintaining QOL in Latina breast cancer survivors.

Implications for Nursing: Social support, uncertainty, and QOL are essential variables that should be acknowledged when delivering health care to Latina breast cancer survivors. Nurses cognizant of Latina breast cancer survivors' issues and concerns in areas of social support and uncertainty are in a unique position to enhance QOL.

Key Points . . .

➤ Social support and uncertainty are pivotal elements that have an impact on breast cancer survivors' quality of life (QOL).

➤ Assumptions about QOL of Latina breast cancer survivors cannot be made in light of their unique cultural dynamics, sociodemographic differences, and behavioral characteristics.

➤ Nurses need to be mindful of the influence of Latina issues and concerns when planning and delivering care to Latina breast cancer survivors.

➤ The paucity of research focusing on Latina breast cancer survivors creates a need for continued investigation of this population.

Quality of life (QOL) issues and concerns are an area of increasing interest among healthcare practitioners caring for vulnerable populations. QOL measures have been used to direct outcome criteria in breast cancer research, to set healthcare policy, and to help identify problems associated with disease, medical management, and effectiveness of rehabilitative interventions (Lee, 1997).

Social support and uncertainty have been identified as pivotal elements affecting the QOL of breast cancer survivors (Sammarco, 2001, 2003). Social support has been acknowledged as an essential aspect in adjustment to breast cancer (Budin, 1998; Hoskins et al., 1996), whereas uncertainty has presented an ongoing threat to QOL of survivors of breast cancer (Ferrans, 1994; Nelson, 1996).

Research investigating perceived social support, uncertainty, and QOL of breast cancer survivors has been conducted using predominantly White, middle-to-upper class American women with minimal representation of ethnic minorities (Leedham & Ganz, 1999, Sammarco, 2001, 2003). Those study findings noted significant associations between perceived social support and QOL and uncertainty and QOL, with perceived social support and uncertainty significantly predicting QOL (Sammarco,

2001, 2003). However, little is known about the QOL of Latina breast cancer survivors or their special issues and concerns. Assumptions about QOL of Latina breast cancer survivors cannot be made because of their unique cultural dynamics, sociodemographic differences, and behavioral characteristics. Because culture likely influences health behaviors, knowledge, satisfaction with health care, and discrimination in and access to healthcare delivery (Baquet & Commiskey, 2000), the generalizability of current research findings to Latina breast cancer survivors and other cultural groups must be questioned (Leedham & Ganz). Therefore, the purpose of the present study was to examine the relationship between perceived social support, uncertainty, and their individual and combined effects on QOL among Latina breast cancer survivors.

Background

Hispanic and Latino or Latina Population

The term Hispanic refers to the heterogeneous communities from Mexico, Central America, the Caribbean, and South

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America, living in United States (Hulme et al., 2003). Diversity in the subgroups, such as race, ethnicity, socioeconomic status, Spanish linguistic variations, and level of acculturation, has been acknowledged (Hulme et al.). However, Hispanics share commonality among aspects of their culture, language, historical development and world view, including perceptions on health and well-being (Hulme et al.). The terms Hispanic and Latino or Latina are used interchangeably in the literature (Diaz, 2002). For the purposes of the present study, the term Latina is used to define the study population.

Perceived Social Support

Perceived social support is information leading individuals to believe that they are cared for, loved, esteemed, and valued and belong to a network of communication and mutual obligation (Cobb, 1976). Breast cancer often produces an enhanced need for social support (Ferrell, Grant, Funk, Otis-Green, & Garcia, 1998). Social support, particularly the support perceived from close, supportive relationships with spouse and family, is a valuable resource for the psychosocial adjustment of women with breast cancer. Breast cancer survivors with larger support networks likely perceive greater amounts of social support (Sammarco, 2001). Dirksen and Erickson (2002) suggested that social support is a significant predictor of resourcefulness in Latina breast cancer survivors.

Uncertainty

Uncertainty is the inability of a person to determine the meaning of illness-related events such as their disease process, treatment, or hospitalization (Mishel, 1988). Uncertainty occurs when an illness event causes ambiguity, inconsistency, or unpredictability (Mast, 1995). Breast cancer survivors likely experience chronic uncertainty because of fear of recurrence, decreased contact with healthcare professionals after treatment concludes, and long-term treatment side effects (Mast, 1998; Pelusi, 1997). Mishel and Braden (1987) found that uncertainty was a significant mediating factor between social support and psychosocial adjustment and that social support and uncertainty were significant predictors of adjustment. Sammarco (2001) reported that younger breast cancer survivors who perceived increased social support experienced less uncertainty. Dirksen and Erickson (2002) noted that uncertainty, resourcefulness, and social support were significant predictors of self-esteem in Latina breast cancer survivors.

Quality of Life

QOL is a person's sense of well-being that stems from satisfaction or dissatisfaction with aspects of life that are important to them (Ferrans, 1990b). Factors such as intermediate and late physical effects, changes in psychological makeup, concern over changes in family and work settings, and the spiritual effects of having survived a life-threatening illness can greatly influence QOL over the long term (Dow, Ferrell, Leigh, Ly, & Gulasekaram, 1996). Spencer et al. (1999) reported that Latina early-stage breast cancer survivors had higher levels of concern regarding QOL issues and particularly had elevated levels of emotional distress and social and sexual disruption than White and African American counterparts. Research has shown that provision of adequate social support is important for maintaining or improving cancer survivors' QOL (Alferi, Carver, Antoni, Weiss, & Duran, 2001).

Theoretical Framework

The conceptual framework that guided the present study is formulated from Mishel's (1988, 1990) uncertainty in illness theory and the Ferrans (1996) conceptual model of QOL. Mishel's (1988) uncertainty in illness theory asserts that uncertainty develops when a person is unable to attribute specific values to objects or events or is unable to predict outcomes because of a lack of sufficient cues. The Ferrans conceptual model posits that QOL is a multidimensional construct composed of four major underlying domains: health and functioning, socioeconomic, psychological and spiritual, and family. Social support functions to reduce uncertainty in illness (Mishel, 1988) and is significant in preserving QOL in breast cancer survivors (Hoskins et al., 1996; Lee, 1997).

Methods

In this descriptive, correlational study, a sample was drawn from a target population of Latina women who have had breast cancer. Self-administered questionnaires were used to gather data. These data were used to describe the relationship between perceived social support, uncertainty, and QOL.

Sample and Setting

The convenience sample consisted of adult Latina breast cancer survivors one year after treatment and drawn from the New York and New Jersey metropolitan area. Because the literature (Grann et al., 2005; Radina, Longo, & Armer, 2005) suggested that cultural factors might exist that could prevent Latinas from participating in research studies, the sample criteria were purposely broadened to obtain a minimum sample size. With power set at 0.80, medium effect size (0.15), and significance criterion (0.5), the minimum sample size determined for this study was 65 subjects (Cohen, 1988).

Instruments

The **Social Support Questionnaire (SSQ)** (Northouse, 1988) is a self-administered measure of social support perceived by the subject as offered from five sources: spouse, family member, friend, nurse, and physician. Eight items are rated on five-point Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree), for each of the five sources for a total of 40 items in all. All items are summed. High scores indicate more perceived social support. Concurrent validity of the SSQ has been demonstrated and internal consistency reliability was reported as 0.90 (Northouse, 1988). In the present study, internal consistency reliability was 0.93. Because only 59 of the women had spouses or significant others, the questions on the spouse subscale were not applicable to all participants.

The **Mishel Uncertainty in Illness Scale–Community** form (MUIS-C) (Mishel, 1997) is a 23-item self-administered measure of the uncertainty perceived in illness. Items are rated on five-point Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree). All items are summed. High scores indicate high levels of uncertainty. Construct validity was demonstrated and internal consistency reliability of the MUIS-C ranges from 0.74–0.92 (Mishel, 1997). Internal consistency reliability in the present study was 0.84.

The Ferrans and Powers **Quality of Life Index–Cancer Version III** (QLI-CV) (Ferrans, 1990a) is a self-administered measure of QOL consisting of two 35-item parts: satisfaction with various life domains and the perceived importance of those domains. The measure is scored using a six-point Likert-type scale ranging from 1 (very dissatisfied) to 6 (very satisfied) for part 1 items and from 1 (very unimportant) to 6 (very important) for part 2. The QLI-CV is scored by weighting each satisfaction response with its corresponding importance response. Higher scores denote better-perceived QOL. The QLI-CV contains four subscales: health and functioning, socioeconomic, psychological and spiritual, and family. Concurrent validity of the QLI-CV was established and internal consistency reliability of the QLI-CV was 0.95 for the entire instrument (Ferrans, 1990a). Reliability for the subscales was 0.90 for health and functioning, 0.84 for socioeconomic, 0.93 for psychological and spiritual, and 0.66 for family (Ferrans, 1990a). In the present study, internal consistency reliability was 0.94 for the entire instrument and 0.91 for health and functioning, 0.60 for socioeconomic, 0.91 for psychological and spiritual, and 0.75 for family subscales.

Procedures

Permission to conduct this study was obtained from the institutional review boards of the College of Staten Island, New York City College of Technology, and selected private hospitals in Staten Island, Brooklyn, and Manhattan. Permission also was obtained from the American Cancer Society (ACS) units of Staten Island, Brooklyn, and Queens. Latina breast cancer survivors who met sample delimitations were identified through records by the tumor registries of participating hospitals and patient records from participating ACS units. The investigators supplied preassembled study packets to the tumor registrars and the ACS units. The study packets contained an explanatory cover letter, the study questionnaires, a demographic assessment form, and a stamped return envelope. The tumor registrars and ACS units' staff members addressed and mailed the study packets to potential participants. In the explanatory cover letter, potential participants were informed that they would be unknown to the investigators to protect their privacy, and return of the completed questionnaire constituted implied consent.

Data Analysis

Data were analyzed using SPSS® version 12.0. Descriptive statistics were used to analyze demographic data. Research questions were answered by employing Pearson product moment correlation and multiple regression. Additional post hoc data analysis was achieved with use of analysis of variance (ANOVA) and an independent sample t test.

Results

The sample consisted of 89 Latina breast cancer survivors with a mean age of 57.35 years (SD = 12.74, range 30–86 years). On average, the women had completed treatment 4.99 years prior to the study (SD = 4.73, range 1–35 years). Most women were married and had completed high school or college. Two-thirds of the sample reported Puerto Rican ethnicity consistent with the New York and New Jersey metropolitan area (U.S Census Bureau, 2008). A vast majority of the

sample had received a combination of surgery and adjuvant therapies. Twelve women (14%) reported being treated by a psychiatrist for a psychiatric illness. The demographics of the sample are presented in Table 1.

The mean scores achieved by participants of the study are presented in Table 2. The mean score for perceived social support is considered moderately high but below the reported mean scores for other samples of women with breast cancer, which ranged from 149.00–166.70 (Northouse, 1988) and 141.43–154.34 (Sammarco, 2001, 2003). The mean score for uncertainty achieved by the sample was higher than the mean score of 33.70 reported by Mishel (1997) and the mean scores of 46.72 and 57.60 reported by Sammarco (2001, 2003).

The mean score for total QOL achieved by the sample is deemed to be modestly high; however, this mean score is lower than the mean scores that ranged from 23.03–23.63

Table 1. Demographic Characteristics

Characteristic	n	%
Marital status		
Single	9	10
Single with partner	5	6
Married	44	49
Divorced	15	17
Separated	4	5
Widowed	12	14
Ethnicity		
Puerto Rican	61	69
Caribbean	14	16
Central or South American	10	11
Other	4	5
Occupation		
Homemaker	27	30
Retired	17	19
Health care	10	11
Educator	5	6
Secretarial	9	10
Sales associate	2	2
Business or management	6	7
Domestic service	3	3
Other	10	11
Level of education		
Elementary school (grades 1–8)	14	16
High school (grades 9–12)	37	42
College	25	28
Postcollege	13	15
Income ($)		
< 20,000	37	42
21,000–40,000	22	25
41,000–60,000	19	21
61,000–80,000	9	10
81,000–100,000	1	1
> 100,000	1	1
Treatment		
Surgery only	6	7
Adjuvant only	2	2
Both	80	91
Unknown	1	1

N = 89

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

Table 2. Mean Scores Achieved by Participants on Study Instruments

Scale	$\overline{X}$	SD	Range
SSQ Total	139.43	25.24	87.00–200.00
Spouse[a]	28.78	8.63	8.00–40.00
Family	31.44	6.89	4.00–40.00
Friend	31.10	5.94	18.00–40.00
Nurse	29.20	5.91	1.00–40.00
Doctor	29.63	6.95	15.00–40.00
MUIS-C	61.30	13.30	25.30–10.70
QLI-CV Total	21.19	5.72	8.16–30.00
Health and functioning	19.93	7.32	1.00–30.00
Socioeconomic	21.62	4.82	9.57–30.00
Psychological and spiritual	21.42	6.97	6.79–30.00
Family	23.94	5.49	8.60–30.00

MUIS-C—Mishel Uncertainty in Illness Scale–Community form; QLI–CV—Quality of Life Index-Cancer Version III; SSQ—Social Support Questionnaire

[a] Because only 59 of the women had spouses or significant others, the questions on this subscale were not applicable to all participants.

reported by Ferrans (1990a) for a sample of 111 women with breast cancer and lower than the mean scores of 21.96–23.13 reported by Sammarco (2001, 2003) for 101 younger and 103 older women with breast cancer.

The mean scores for the QLI-CV subscales obtained by this sample are consistently lower than the mean scores of 21.59–22.43 for health and functioning, 22.00–23.91 for socioeconomic, and 24.32–24.38 for family previously reported by Sammarco (2001, 2003). The mean score for the psychological and spiritual domain was consistent with the mean scores of 21.36–23.00 reported by Sammarco (2001, 2003).

A significant positive correlation was noted between perceived social support and total QOL, $r = 0.388$, $p = 0.001$. A significant positive correlation also was found between perceived social support and the QOL subscales. A significant negative correlation was found between uncertainty and total QOL, $r = –0.439$, $p = 0.001$. Significant negative correlations also were found between uncertainty and the QOL subscales (see Table 3).

A stepwise multiple regression was performed using social support and uncertainty to predict QOL. In the first step, social support was entered and predicted 15.1% of the variance of the QOL scores ($F[1,87] = 15.46$, $p = 0.001$). Uncertainty entered the second step and predicted 10.4% of additional variance of QOL ($F[1,86] = 11.96$, $p = 0.001$). Together these two variables predicted 20.5% of the variance of QOL ($F[2,86] = 14.69$, $p = 0.001$). Coefficients from the second step of the regression model indicated that increased perceived social support was associated with improved QOL ($B = 0.060$, $p = 0.009$) while decreased uncertainty was associated with improved QOL ($B = –0.148$, $p = 0.001$).

Analyses also were performed to determine whether the main study variables were significantly associated with demographic variables. Pearson correlations showed that age was not significantly associated with QOL, uncertainty, or total perceived social support scores. ANOVA revealed that marital status was associated with all three of the main variables (see Table 4). On the QLI-CV, the single participants showed significantly lower scores than the married participants (Tukey HSD, $p = 0.03$). On the MUIS-C, single participants showed greater uncertainty than married participants (Tukey HSD, $p =$

0.027). In terms of perceived social support, married participants showed higher scores than single ($p = 0.003$) and widowed participants ($p = 0.001$), and widowed participants scored lowered than divorced participants.

One-way ANOVA found that education level was not related to QOL ($F[3,85] = 1.84$, $p = 0.15$) or to perceived social support ($F[3,85] = 0.88$, $p = 0.45$) but was associated with uncertainty ($F[3,85] = 3.33$, $p = 0.023$). Subjects with a grade school level of education showed significantly higher scores ($\overline{X} = 68.57$, $SD = 15.13$) than those with a high school education ($\overline{X} = 55.46$, $SD = 13.38$). College ($\overline{X} = 61.88$, $SD = 12.77$) and graduate school ($\overline{X} = 61.00$, $SD = 15.09$) levels of education showed scores between the other two groups. Using one-way ANOVAs, mean study variables were not associated with ethnicity (country of origin) (QLI-CV: $F[3, 85] = 1.60$, $p = 0.20$; MUIS-C: $F[3,85] = 1.18$, $p = 0.32$; SSQ: $F[3,85] = 0.59$, $p = 0.62$).

Independent sample t tests were performed to determine whether having a psychiatric illness was associated with the main study variables. Uncertainty was not associated, $t = –1.54$, $p = 0.13$. However, perceived social support was lower for those with psychiatric illness ($\overline{X} = 123.67$, $SD = 21.53$) than for those without ($\overline{X} = 141.88$, $SD = 25.09$, $t(85) = 2.38$, $p = 0.02$). QOL was lower for those with psychiatric illness ($\overline{X} = 18.03$, $SD = 6.35$) than for those without ($\overline{X} = 21.58$, $SD = 5.53$, $t = 2.03$, $p = 0.05$).

Discussion

The findings of the study provide a description of the relationship between perceived social support, uncertainty, and QOL in a sample of Latina breast cancer survivors. The findings suggest that perceived social support and uncertainty play a pivotal role in managing or maintaining QOL in this population.

The moderately high mean score for perceived social support found in the sample fell below mean scores for predominantly White samples of breast cancer survivors in other studies (Northouse, 1998; Sammarco, 2001, 2003). This suggests that Latina breast cancer survivors may not be aware of or using available social support resources. Healthcare practitioners should be cognizant of this likelihood and should consider this in healthcare plans for this population.

The positive relationship between perceived social support and QOL underscores the importance of social support

Table 3. Correlations of the Quality-of-Life Subscales With Perceived Social Support and Uncertainty Scores

QLI-CV Subscale	SSQ Total	MUIS-C
Total score	0.388***	–0.439***
Health and functioning	0.402***	–0.434***
Socioeconomic	0.370***	–0.368***
Psychological and spiritual	0.274**	–0.350***
Family	0.221*	–0.241*

N = 89

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

MUIS-C—Mishel Uncertainty in Illness Scale–Community form; QLI-CV—Quality of Life Index–Cancer Version III; SSQ—Social Support Questionnaire

Table 4. Association of Marital Status and Study Variables

Marital Status	QLI-CV[a]		MUIS-C[b]		SSQ[c]	
	X̄	SD	X̄	SD	X̄	SD
Single	16.90	6.73	72.11	18.16	118.78	19.49
Single with partner	16.08	3.43	65.60	8.11	137.60	15.13
Married	22.87	4.72	56.50	13.85	149.64	26.29
Divorced	22.80	6.02	56.67	15.12	143.93	16.68
Separated	22.11	4.52	69.75	11.09	129.50	22.78
Widowed	18.05	5.76	63.33	7.02	115.92	10.35

[a] $F_{(5, 83)} = 4.18$, $p = 0.002$

[b] $F_{(5, 83)} = 2.93$, $p = 0.017$

[c] $F_{(5, 83)} = 6.50$, $p = 0.001$

MUIS-C—Mishel Uncertainty in Illness Scale–Community form; QLI-CV—Quality of Life Index–Cancer Version III; SSQ—Social Support Questionnaire

as a beneficial resource in sustaining acceptable QOL in Latina breast cancer survivors. The findings of the study also revealed that single participants had poorer QOL than married participants. Married participants, when compared with single, divorced, and widowed Latina breast cancer survivors, perceived greater social support. The findings underscore the importance of the marital relationship as a source of support for the sample and are consistent with other studies (Hoskins et al., 1996; Northouse, 1988; Northouse, Laten, & Reddy, 1995).

The mean score for uncertainty noted in the sample was higher than mean scores for predominantly White samples of breast cancer survivors in prior studies (Mishel, 1997; Sammarco, 2001, 2003). This finding suggests that Latina breast cancer survivors may be experiencing a greater degree of uncertainty and healthcare practitioners should be mindful of this probability when planning and delivering care.

The relationship observed between uncertainty and QOL suggests that increased uncertainty may undermine an individual's ability to sustain an acceptable QOL, most notably in the domains of health and functioning, socioeconomic, and psychological and spiritual. The uncertainty arising from the presence of symptoms, side effects of treatments, fear of death, and suffering, along with financial concerns about health-related costs is likely to erode the QOL of Latina breast cancer survivors. Findings of the study indicate increased uncertainty among those participants with less formal education. The lack of educational influences on cognitive resources to make life adjustments and facilitate integration of uncertainty as a less threatening presence in the lives of breast cancer survivors (Mast, 1995) is a factor that needs further consideration.

The mean QOL scores for the study sample were lower than the mean scores achieved with predominantly White breast cancer survivors in prior investigations by Ferrans (1990a) and Sammarco (2001, 2003). This finding suggests that Latina breast cancer survivors may be experiencing poorer QOL and healthcare practitioners should be attentive to the QOL issues and concerns of this population.

The findings of the study further emphasize the impact perceived social support and uncertainty have on QOL of breast cancer survivors. The correlations noted between perceived social support, uncertainty, and QOL were consistent with prior research (Sammarco, 2001, 2003). Study results suggest that facilitating social support while reducing uncertainty likely may have a strong influence on the QOL of Latina breast cancer survivors.

Limitations

Although the instruments used in the study generally demonstrated acceptable reliability coefficients, the socioeconomic subscale of the QLI-CV demonstrated questionable reliability. The convenience sample of Latina breast cancer survivors contained an overrepresentation of married, employed, and highly educated participants, which may not be representative of Latinas throughout the United States. The likelihood of sampling bias possibly could skew participants' scores on the variables. Therefore, results should not be generalized beyond the study sample.

Nursing Implications

Healthcare professionals are challenged to provide quality patient care to diverse populations. Standards of practice dictate that healthcare practitioners incorporate culturally sensitive care into their healthcare practices. The present study provides information that may be helpful to nurses and other healthcare professionals who provide care to Latina breast cancer survivors.

Social support, uncertainty, and QOL are essential variables that should be acknowledged when delivering health care to Latina breast cancer survivors. Nurses cognizant of Latina breast cancer survivors' issues and concerns in the areas of social support and uncertainty are in a unique position to enhance their QOL. Interventions should assist Latina breast cancer survivors to find definitive social support resources and develop strategies for reducing their degree of uncertainty.

Recommendations for Future Research

The paucity of research focusing on Latina breast cancer survivors creates a need for continued investigation of this population. Research that investigates the distinct cultural factors common among Latinas and the impact these factors have upon perceived social support, uncertainty, and QOL is strongly suggested. Obtaining samples of Latina breast cancer survivors that better represent the underserved and those who are of lower socioeconomic means also is recommended. Additional research is encouraged to determine the difference between perceived social support, uncertainty, and QOL of Latina and White breast cancer survivors.

Future research also should be directed toward investigating culturally competent interventions that are developed in response to QOL issues and concerns of Latina women. This likely may advance the quality of health care this population receives and provide further direction toward improving QOL outcomes of Latina breast cancer survivors.

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