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Coping Resources and Self-Rated Health among Latina Breast Cancer Survivors

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Abstract

Purpose/Objectives—To examine relationships between coping resources and self-rated health among Latina breast cancer survivors (BCS).

Design—Cross-sectional telephone survey.

Setting—Four Northern California counties.

Sample—330 Latina BCS within 1–5 years of diagnosis.

Methods—Telephone survey conducted by bilingual-bicultural interviewers.

Main Research Variables—Predictors were sociodemographic and clinical factors, cancer self-efficacy (adapted Cancer Behavior Inventory-B, ver. 2), spirituality (Functional Assessment of Cancer Therapy Quality of Life Measurement System Spiritual Well-being Scale, ver. 4) social support from family/friends and oncologists (adapted Helgeson's Social Support Scales). Outcomes were functional limitations and self-rated health.

Findings—Mean age was 58 years; 70% were Mexican; and most had a high school education. About 60% had a mastectomy; about 90% were within 2–3 years of diagnosis. Approximately one-fourth of women reported functional limitations (73; 22.1%) and poor/fair self-rated health (89; 27%). Unemployment (AOR=7.06; 95% CI 2.04, 24.46), mastectomy (AOR=2.67; 95% CI 1.06, 6.77), and comorbidity (AOR=4.09; 95% CI 1.69, 9.89) were associated with higher risk of functional limitations; cancer self-efficacy had a protective effect (AOR=0.40, 95% CI 0.18, 0.90).

Comorbidity was associated with higher risk of poor/fair self-rated health (AOR=4.95; 95% CI 2.13, 11.47); cancer self-efficacy had a protective effect (AOR=0.30; 95% CI 0.13, 0.66).

Conclusions—Comorbidity places Latina BCS at increased risk of poor health. Cancer self-efficacy deserves more attention as a potentially modifiable protective factor.

Implications for Nursing Practice—Nurses need to assess the impact of comorbidity on functioning and can reinforce a sense of clinician support and control over cancer.

Keywords

breast cancer; comorbidity; health status; Latina/Hispanic; self-efficacy; social support

Introduction

Breast cancer is the most frequently occurring cancer and the leading cause of cancer death among Latinas (American Cancer Society, 2001; Miller et al., 1996). Over two-and-a-half million people were living with breast cancer in the United States in 2006 (Horner et al., 2009). Over 96,000 Latina breast cancer survivors were diagnosed in the 15 years prior to 2006 (Horner, et al., 2009). Although cancer survivorship research among Latinas is sparse, evidence is emerging that Latinas may be at higher risk of psychosocial morbidity following breast cancer than White women, suffering disproportionately from issues related to distress, sexuality, pain, symptoms, relationships with partners, employment, and financial hardships (K. T. Ashing-Giwa et al., 2004; Christie, Meyerowitz, & Maly, 2009; Eversley et al., 2005; Spencer et al., 1999). Yet little has been done to assess the relationship between their coping resources and health status as they transition from an acute cancer phase to survivorship (Aziz & Rowland, 2002).

Literature Review

Conceptual Framework

Social-Cognitive Transition Theory, which integrates stress and coping models (Lazarus & Folkman, 1984) with social-cognitive theory, (Bandura, 1997) is a psychosocial model that views adaptation to cancer as “psychological processes that occur over time as the individual, and those in their social world, manage, learn from and adapt to the multitude of changes which have been precipitated by the illness and its treatment” (Brennan, 2001; pg. 1). This model was employed for the current analysis because it emphasizes the social context of an individual’s personal illness experience and postulates the importance of cognitive, spiritual, and social dimensions of adaptation to cancer. Consistent with this theory, multilevel personal and environmental factors can affect well-being among cancer survivors, including intrapersonal factors (e.g., active coping), interpersonal factors (e.g., social support), and socioeconomic factors (Holland & Gooren-Piels, 2000). In this study, we examine the associations of intrapersonal and interpersonal coping resources and health status among Latina breast cancer survivors using the Social-Cognitive Transition Theory as a guide.

Coping Resources and Health Status

Intrapersonal factors that have been associated with adaptation to breast cancer include self-efficacy and spirituality. Belief in the controllability of cancer, a personal sense of mastery or ability to solve problems, and better self-efficacy for coping with cancer have been associated with better psychosocial adjustment to cancer (Ell, Nishimoto, Morvay, Mantell, & Hamovitch, 1989; Heim, Valach, & Schaffner, 1997; Kreitler, Peleg, & Ehrenfeld, 2006; T. V. Merluzzi & Martinez Sanchez, 1997; S. E. Taylor, Lichtman, & Wood, 1984). Conversely, cognitive avoidance coping, such as relinquishing responsibility to others, has

been associated with psychological distress in women with breast cancer (Heim, et al., 1997; Stanton & Snider, 1993). Another intrapersonal factor, spirituality has been linked to better quality of life (QOL) among people with cancer, possibly by providing survivors with a strengthened coping ability or continued sense of worth (Brady, Peterman, Fitchett, Mo, & Cella, 1999).

Little research has explored the resources used by Latina breast cancer survivors and their effects on health status. With respect to intrapersonal resources and breast cancer screening, Latinas, especially those who are Spanish-speaking, feel less control over their breast health than White women (e.g., more likely to view health as a matter of luck) (Smiley, McMillan, Johnson, & Ojeda, 2000). Although the concept of self-efficacy has been well studied among non-Latino White women, (Kreitler, et al., 2006) cancer self-efficacy among Latina cancer survivors has not been explored other than in the screening context (Fernandez et al., 2009). Spirituality, however, has been identified in several studies as an important coping resource in the recovery of Latinas with cancer (K. T. Ashing-Giwa, et al., 2004; Culver, Arena, Antoni, & Carver, 2002; Juarez, Ferrell, & Borneman, 1998; Lee, Lin, Wrensch, Adler, & Eisenberg, 2000; Moadel et al., 1999; E. J. Taylor, 2001). For example, Latinas with breast cancer more often used religious coping than White women (Culver, et al., 2002).

Interpersonal resources that can affect adaptation to cancer include the availability and role of support from family, friends, and physicians, which function theoretically through direct effects or as buffers of stressful events on the adjustment to cancer (Kornblith et al., 2001). Emotional support from close social relationships has been positively associated with psychological adaptation and well-being in cancer patients (Bloom & Spiegel, 1984; Dirksen, 2000; Ell, et al., 1989; Kornblith, et al., 2001).

Interpersonal coping resources, such as social support play an important role in the cancer adaptation experiences of Latinas. Family support is an important concern of Latina women with cancer, manifesting both positively as feeling that the cancer has resulted in greater family unity, and negatively as feeling abandoned by family members (Cuevas-Renaud, Sobrevilla-Calvo, & Almanza, 2000). Among Latinas with breast cancer, support from family and friends has been found to be important in meeting their physical and emotional support needs, and reducing distress (Alferi, Carver, Antoni, Weiss, & Duran, 2001; K. T. Ashing-Giwa, et al., 2004; Guidry, Aday, Zhang, & Winn, 1997; Juarez, et al., 1998). A large study of long-term cancer survivors found that among men and women, Latinos were more likely to report that cancer had improved their family relationships than African Americans or Whites (Schultz, Stava, Beck, & Vassilopoulou-Sellin, 2004). On the other hand, close family ties may also increase emotional distress, especially if illness interferes with family and household responsibilities (K. T. Ashing-Giwa, et al., 2004; Juarez, et al., 1998). Physicians, viewed as authority figures in traditional Latino culture, have also been considered as important sources of support by Latinas with breast cancer (K. T. Ashing-Giwa, et al., 2004). However, the effects of these coping resources on the health of Latina breast cancer survivors are poorly understood.

Objective

To address gaps in the literature related to coping resources associated with the health of Latina breast cancer survivors, using a cross-sectional telephone survey, the objective of this study was to examine the effects of cancer self-efficacy, spirituality and social support on the self-rated health and functional limitations of Latina breast cancer survivors within five years of diagnosis. Consistent with Social-Cognitive Transition Theory, we hypothesized that greater cancer self-efficacy, spiritual well-being, and social support are associated with better self-rated health among Latinas.

Methods

Sample

Women with breast cancer were identified through a population-based cancer registry belonging to the National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) Program (Greater Bay Area Cancer Registry, 2005). Inclusion criteria consisted of women of any age and national origin who: 1) self-identified as Latina; 2) were diagnosed with their first in-situ, localized, or regional stage breast cancer between 1999–2002 (within five years of the survey); and 3) resided in Alameda, Contra Costa, Santa Clara, or Santa Cruz county. Exclusion criteria included having metastatic (Stage 4) breast cancer, being too sick to participate (based on self-report) or cognitive impairment compromising the quality of the interview as judged by the interviewer. Women with metastatic cancer were excluded since their quality of life issues may differ from those with non-metastatic disease (e.g., greater focus on symptom relief) (Smith, 2006).

Instruments

Indicators of sociodemographic factors, clinical factors, coping resources, and health status were used.

Sociodemographic variables—Based on self-report, sociodemographic variables included age (in years), place of birth (U.S.-born or foreign-born), language acculturation (Spanish dominant, both equally, or English dominant), educational level (0–6th grade, 7th grade to high school graduate/GED, or more than high school), marital status (married or not married), employment status (employed or unemployed), and health insurance (private, public, or none). Latino ethnicity was confirmed by self-report.

A 4-item language acculturation measure was derived from a previously validated scale (Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987). The four items asked about language use in four contexts (read and speak in general, speak at home, usually think in, and speak with friends) with the following response options: 1=only Spanish; 2=Spanish better/more than English; 3=both equally; 4=English better/more than Spanish; and 5=English only. Cronbach's alpha for the acculturation scale was 0.95 in this sample. The mean acculturation score was divided into tertiles as follows: 2 were categorized as "Spanish dominant," scores between 2 and 4 were classified as using "both equally," and scores 4 were "English dominant."

Clinical variables—Clinical variables included type of surgery (self-reported lumpectomy or mastectomy), self-reported time since diagnosis (two years or less or more than two years), self-reported presence of a comorbid chronic condition, and tumor-registry-reported histological grade (well/moderately differentiated, poorly differentiated/undifferentiated, or missing), and tumor registry-reported stage at diagnosis (in situ, localized, or regional).

Coping resources—Coping resources included four multi-item scales that assessed cancer self-efficacy, spiritual well-being, social support from family and friends, and social support from oncologists. Multitrait scaling analysis was conducted on the four hypothesized scales to assess their psychometric properties in this sample (Hays & Hayashi, 1990).

Cancer self-efficacy was assessed using 6 items of the 14-item Cancer Behavior Inventory (CBI-B, version 2) (T.V. Merluzzi, Nairn, & Martinez Sanchez, 1999). At the time of this study, this instrument had not been translated into Spanish. Our research team translated the original scale using rigorous forward-backward translation methods with reconciliation of

language versions by team consensus (Guillemin, Bombardier, & Beaton, 1993). The translation team consisted of four experienced bilingual-bicultural researchers of Mexican, Cuban, and Central American origin.

We conducted cognitive pre-testing of the 14-item CBI English and Spanish versions (five pretest interviews in each language) in women similar to our target population (Latinas diagnosed with breast cancer in the past five years) because of the lack of data on its appropriateness for use among Latinas. We dropped eight of the original 14 items due to problems with comprehension or translation into Spanish identified in the cognitive pretests. Four of these items were treatment related and were dropped because they were viewed by most of the women in this sample as irrelevant since they had completed active treatment (despite being instructed to consider their level of confidence to do the activity in the near future per the instrument's instructions). The other four items (two on maintaining work and independence and two on use of denial and expression of negative feelings) were dropped because the cognitive pretests indicated they were not understood by respondents as intended by the instrument's authors or were understood differently across languages.

Final items assessed respondents' confidence in seeking and understanding medical information, accepting their cancer, maintaining a positive attitude, and seeking social support. The final 6-item scale demonstrated good convergent validity (all item-scale correlations were $> .40$), good divergent validity (the correlation of an item with its hypothesized scale was at least two standard errors greater than its correlation with other scales), and good internal consistency reliability (Cronbach's $\alpha=0.80$). The scale score (possible range=1–4) was the mean of non-missing items with a higher score indicating a greater sense of self-efficacy, defined as their ability to engage in positive self-care behaviors with respect to their cancer.

Spiritual well-being was assessed using a previously validated 12-item scale from the Functional Assessment of Cancer Therapy Quality of Life Measurement System (FACT, version 4) (Peterman, Fitchett, Brady, Hernandez, & Cella, 2002). Cronbach's α was 0.82 in this sample. The scale score (possible range=0–48) was the mean of non-missing items with a higher score indicating better spiritual well-being.

We used a 15-item measure of perceived availability of emotional, informational, and instrumental support previously used in breast cancer survivors by Helgeson, et al (Helgeson, 2000). The scale was adapted slightly to ask about support received from family and friends rather than spouse or partner only, as we anticipated the importance of family support among Latinas. Based on multitrait analysis, this scale demonstrated excellent psychometric properties (item-scale correlations > 0.40 ; a correlation of each item with its hypothesized scale at least two standard errors greater than its correlation with other scales; Cronbach's $\alpha = 0.90$). From the same source, we also used a 10-item scale assessing emotional and informational support from oncologists. This scale also demonstrated excellent psychometric properties in this sample (item-scale correlations > 0.40 , a correlation of each item with its hypothesized scale at least two standard errors greater than its correlation with other scales, and Cronbach's $\alpha = 0.94$). As described for the cancer self-efficacy scale, the social support scales were also translated into Spanish and subjected to cognitive testing. No items were dropped based on the cognitive testing as they appeared to be understood as intended.

For both support scales, items asked how likely family and friends (or their oncologist) would be to provide various types of help for their cancer if they needed it (e.g., "How likely would they be to comfort you if you were upset?"). Response options were 1=they would not do this, 2=they might do this, 3=they would probably do this, and 4=they would

definitely do this. Both support scales (possible range=1–4) were scored as the mean of non-missing items with a higher score indicating greater perceived support.

Outcome variables—The two outcome variables consisted of self-report of any functional limitations and self-rated health. The presence of functional limitations was assessed using a single item previously found to predict QOL among ethnically diverse cancer patients originally developed by the Eastern Cooperative Oncology Group (Wan et al., 1999). Respondents indicated their current level of activity with a 4-level response option ranging from 1=able to do all normal activities to 4=bedridden for more than half of the day. This variable was dichotomized into no limitations vs. some limitations as over three-fourths of the sample reported an ability to do all of their normal activities. The self-rated health item was dichotomized as poor/fair vs. good/very good/excellent in response to an item that asked “In general, would you say your health is poor, fair, good, very good, or excellent?”

Procedures

A letter was sent to eligible women’s physician of record, and telephone follow-up sought consent to contact their patients. Women whose physicians did not object to our contacting the patient received an initial contact letter in English and Spanish with an acceptance/refusal postcard where they could indicate a preference for no further contact. Patients who did not refuse by postcard were telephoned by an experienced bilingual-bicultural interviewer who answered questions and obtained verbal informed consent prior to the telephone interview. Participants received \$20.00 for participating. Surveys were conducted from April to September, 2004. The University of California San Francisco institutional review board approved the study.

Analyses

We conducted psychometric analyses of multi-item scales assessing cancer self-efficacy, spiritual well-being, perceived availability of social support from family/friends and oncologists. After dropping items with poor discriminant or convergent validity, final scales demonstrated excellent psychometric properties (item-total correlations $\geq .40$ corrected for overlap, items correlated at least two standard errors higher with their own scale than with other scales, and scales had internal consistency reliability > 0.80).

Descriptive statistics (means and Chi-square statistics) were used to characterize the sample. Logistic regression was used to model the independent effects of sociodemographic and clinical factors, and coping resources on functional limitations and self-rated health.

Results

The sampling frame consisted of 1,133 eligible women according to tumor registry data. We were unable to contact 29% (n=333), 22% (n=249) were ineligible mostly due to misclassification of ethnicity, 14% (n=161) declined, and 6% (n=60) were deceased or too ill. We obtained a 67% response rate of those who were eligible, not too ill, and accessible (330/491), or 29% of the sampling frame. The survey took 32 minutes on average. Compared to non-participants (ineligibles, refusals, and those who were unable to be contacted, deceased or too ill), participants tended to be younger at the time of the interview (mean age 58.3 vs. 61.4 years, $p<.001$) and at diagnosis (55.8 versus 58.2 years, $p<.001$), and less likely to have well differentiated tumors (14.1% vs. 18.5%, $p<.05$). There were no significant differences between participants and non-participants by county of residence or stage at diagnosis.

The mean age of the sample was 58 years (range=30–90 years; SD=11.9 years); 25% were less than age 50 (Table 1). About 60% were foreign-born and only 30% were English dominant. Approximately 70% were of Mexican origin, 14% were Central American, and 7% were South American. Almost 70% had a high school education or less. Sixty percent were married or living with someone. The majority was not employed outside the home. Less than 3% was uninsured, with two-thirds privately insured and almost one-third publicly insured.

Coping resources were fairly high among this group of Latina cancer survivors. The mean cancer self-efficacy score was 3.41 (SD 0.60) on a 1–4 scale. The mean spiritual well-being score was 40.8 (SD 7.02) on a 0–48 scale. Mean scale scores for perceived support from family/friends and oncologists were both above 3.5 on a 1–4 scale.

About 60% of the women had a mastectomy, half had well or moderately differentiated histological grading of their tumors, and almost 70% had in situ or localized breast cancer. Almost all were within two or three years of diagnosis when interviewed (283; 85.8%). Slightly less than 20% reported a comorbid chronic condition, consisting mostly of hypertension, diabetes, and arthritis. Over 20% reported experiencing some functional limitations, and over one-fourth reported being in poor or fair health.

Functional Limitations

In bivariate analyses, being older, less acculturated, less educated, unemployed, or having public health insurance, a mastectomy, or comorbidity were associated with a greater likelihood of reporting functional limitations (Table 2). In bivariate models, cancer self-efficacy, spiritual well-being, and perceived social support from family and friends, were inversely associated with functional limitations.

In multivariate models examining the independent effects of sociodemographic, clinical, and coping factors on functional limitations, controlling for other variables in the model, employment status, type of surgery, comorbidity, and cancer self-efficacy were significantly associated with functional status. Unemployed women were seven times more likely to report functional limitations than women who were working (Adjusted Odds Ratio or AOR 7.06, 95% CI 2.04, 24.46). Women with a mastectomy were almost three times as likely to report functional limitations as women with a lumpectomy (AOR 2.67; 95% CI 1.06, 6.77). Comorbidity was associated with a four-fold increased risk of functional limitations (AOR 4.09, 95% CI 1.69, 9.89). Cancer self-efficacy was protective against functional limitations (AOR 0.40, 95% CI 0.18, 0.90).

Self-Rated Health

In bivariate analyses, being less acculturated, less educated, unemployed, and having a comorbid chronic condition were associated with poorer self-rated health (Table 3). In bivariate models, all of the coping resources (cancer self-efficacy, spiritual well-being, social support from family and friends, and social support from oncologists) were protective against reporting poorer health.

In the multivariate model, women with a comorbid condition were almost five times more likely to report being in poor/fair health than those with no other chronic health problem (AOR 4.95, 95% CI 2.13, 11.47). Of the coping resources, only cancer self-efficacy remained independently associated with self-rated health, such that women with higher levels of self-efficacy were less likely to report being in poor/fair health (AOR 0.30, 95% CI 0.13, 0.66).

Discussion

This study assessed the relationships between several psychosocial coping resources and the health status of Latinas within one to five years of diagnosis. Cancer self-efficacy and comorbid chronic conditions were important predictors of health status. Higher levels of cancer self-efficacy had a protective effect against reporting functional limitations and poor or fair self-rated health, while comorbidity increased significantly the risk of these outcomes. Despite their relatively young age (mean age of 58), about one-fourth of Latina breast cancer survivors reported poor or fair health or functional limitations. Latinas who were less acculturated and less educated reported poorer health. This is consistent with prior studies that have found Latina breast cancer survivors report worse quality of life (Sammarco & Konecny, 2010) and greater symptom burden than their White counterparts (Fu et al., 2009).

Comorbidity and having had a mastectomy appear to be important indicators of increased risk of functional limitations among Latina breast cancer survivors. This is consistent with previous studies that found an independent association between comorbidity and poorer QOL in ethnically diverse cancer survivors (K. Ashing-Giwa, Ganz, & Petersen, 1999; Penedo, Dahn, Shen, Schneiderman, & Antoni, 2006). Comorbidity may disproportionately affect Latinas cancer survivors; they may be more likely to report diabetes mellitus and several acute conditions than their African American and White counterparts (Schultz, et al., 2004). As early detection and the translation of effective cancer treatments increase, more women will survive breast cancer making management of comorbidities an increasingly important QOL issue.

Among White cancer patients, self-efficacy has been associated positively with QOL (Kreitler, et al., 2006; S. E. Taylor, et al., 1984). Similar to White women, cancer self-efficacy was associated with better self-reported health in this study of Latinas.

Consistent with other studies, spiritual well-being (Brady, et al., 1999; Laubmeier, Zakowski, & Bair, 2004) and social support (Bloom & Spiegel, 1984; Dirksen, 2000; Kornblith, et al., 2001) were associated with better QOL. However, in our study, the positive effects of spiritual well-being and social support were attenuated in the multivariate models, suggesting that they may operate on quality of life by improving cancer self-efficacy, as has been found previously (Nairn & Merluzzi, 2003). When medical issues arise, Latinas may feel justified in asking for help from family members and friends, when under normal circumstances they might not (Gonzalez, Gallardo, & Bastani, 2005). Compared to White women, older Latinas with breast cancer (regardless of acculturation level) involved family members (usually older adult children) to a greater extent in treatment decision making (Maly, Umezawa, Ratliff, & Leake, 2006) and emotional and instrumental support roles (Maly, Umezawa, Leake, & Silliman, 2005). This support was associated with less anxiety and fewer depressive symptoms among Latinas, but not Whites (Maly, et al., 2005). Prospective studies need to assess further the interrelationships among various intrapersonal and interpersonal coping resources and quality of life.

Limitations

This study has several limitations. First, only about a third of the sampling frame participated; we lost over half of potential participants due to their ineligibility or inaccessibility. However, based on registry data, compared to non-participants, participants were only slightly younger at diagnosis and were similar on stage at diagnosis and county of residence. The survey was cross-sectional; therefore, we do not know the temporal sequence of the cancer coping resources and health status.

Implications for nursing practice

Our study found that the prevalence of comorbidity, functional limitations, and poorer health is significant among Latina breast cancer survivors. Our findings also support the important role of self-efficacy to engage in self-care to the recovery of Latinas within five years of a breast cancer diagnosis. Further studies are needed to confirm this finding and explore the potential role of cancer self-efficacy in the resilience of Latinas with breast cancer. If these findings are robust, they could inform potential interventions to aid clinicians and their Latino patients with enhancing cancer self-management skills and patients' resilience. Empowering Latinas to participate in their care, recovery, and resumption of life after breast cancer may be especially critical given their multiple vulnerabilities.

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Table 1

Demographic and Clinical Characteristics, and Coping Resources of Latinas with Breast Cancer, Northern California, 2004 (N=308–330).

Characteristic	N (%)	Mean (SD)
Sociodemographic		
Age in years		58.3 (11.9)
30–49	83 (25.3)	
50–59	102 (31.1)	
60–69	79 (24.1)	
70 and older	64 (19.5)	
Birthplace		
U.S.-born	134 (40.7)	
Foreign-born	195 (59.3)	
Language acculturation		
Spanish dominant	131 (39.7)	
Both equally	99 (30.0)	
English dominant	100 (30.3)	
Educational level		
0–6 th grade	86 (27.1)	
7 th grade – high school graduate	134 (42.3)	
> high school graduate	97 (30.6)	
Marital status		
Married	197 (59.9)	
Not married	132 (40.1)	
Employment status		
Employed	130 (39.5)	
Unemployed	199 (60.5)	
Health insurance		
Private	214 (65.9)	
Public	102 (31.4)	
None	9 (2.7)	
Clinical		
Type of surgery		
Lumpectomy	126 (40.4)	
Mastectomy	186 (59.6)	
Histological grade		
Well/moderately differentiated	172 (52.1)	
Poorly differentiated/undifferentiated	111 (33.7)	
Missing	47 (14.2)	
Stage at diagnosis		
In situ	57 (18.5)	
Localized	151 (49.0)	

Characteristic	N (%)	Mean (SD)
Regional	100 (32.5)	
Time since diagnosis		
Two years or less	132 (40.1)	
> than 2 years	197 (59.9)	
Comorbid chronic condition		
Yes	58 (17.6)	
No	272 (82.4)	
Coping Resources[/]		
Cancer self-efficacy (1–4 scale)		3.41 (0.60)
Spiritual well-being (0–48 scale)		40.80 (7.02)
Support from family and friends (1–4 scale)		3.57 (0.57)
Support from oncologist (1–4 scale)		3.50 (0.72)
Health Status		
Functional limitations		
Yes	73 (22.1)	
No	257 (77.9)	
Self-rated health		
Poor/fair	89 (27.0)	
Good/very good/excellent	241 (73.0)	

[/] A higher score = more of the construct.

Table 2

Odds of Reporting Functional Limitations among Latina Breast Cancer Survivors (N=265–330).

Variable	OR (95% CI)	AOR* (95% CI)
Sociodemographic		
Age (continuous)	1.03 (1.01, 1.05)	1.00 (0.96, 1.03)
Foreign-born (vs. U.S.-born)	1.66 (0.96, 2.89)	0.65 (0.20, 2.13)
Language acculturation (reference group: English dominant)		
Spanish dominant	2.39 (1.26, 4.51)	0.61 (0.13, 2.84)
Both equally	0.74 (0.34, 1.61)	0.66 (0.22, 2.00)
Education (reference group: more than high school)		
None to 6 th grade	6.09 (2.70, 13.71)	1.92 (0.55, 6.70)
7 th to high school graduate	2.70 (1.21, 6.01)	0.72 (0.24, 2.18)
Not married (vs. married)	1.41 (0.83, 2.38)	1.50 (0.66, 3.42)
Unemployed (vs. employed)	6.37 (3.04, 13.35)	7.06 (2.04, 24.46)
Public health insurance (vs. private insurance)	3.52 (2.04, 6.09)	1.23 (0.56, 2.96)
Clinical		
Mastectomy (vs. lumpectomy)	4.20 (2.14, 8.21)	2.67 (1.06, 6.77)
Histological grade (reference group: well/moderately differentiated)		
Poorly/undifferentiated	0.81 (0.44, 1.50)	0.89 (0.38, 2.06)
Missing	2.66 (1.33, 5.30)	1.17 (0.27, 5.11)
Stage at diagnosis (reference group: in situ)		
Localized	0.82 (0.38, 1.75)	0.79 (0.27, 2.17)
Regional	1.00 (0.45, 2.21)	0.77 (0.26, 2.27)
2 years or less since diagnosis (vs. more than 2 years)	0.84 (0.49, 1.44)	0.63 (0.29, 1.38)
Comorbid chronic condition (vs. none)	5.71 (3.10, 10.50)	4.09 (1.69, 9.89)
Coping Resources		
Cancer self-efficacy (continuous)	0.26 (0.16, 0.40)	0.40 (0.18, 0.90)
Spiritual well-being (continuous)	0.56 (0.39, 0.82)	0.75 (0.36, 1.54)
Social support from family and friends (continuous)	0.65 (0.43, 0.98)	1.57 (0.66, 3.74)
Social support from oncologist (continuous)	0.76 (0.54, 1.07)	1.27 (0.67, 2.41)

* Adjusted for other variables in the model

Table 3

Odds of Reporting Poor or Fair Self-Rated Health among Latina Breast Cancer Survivors (N=265–330).

Variable	OR (95% CI)	AOR* (95% CI)
Sociodemographic		
Age (continuous)	1.00 (0.98, 1.02)	0.98 (0.94, 1.01)
Foreign-born (vs. U.S.-born)	1.47 (0.88, 2.44)	0.63 (0.22, 1.81)
Language acculturation (reference group: English dominant)		
Spanish dominant	2.40 (1.32, 4.35)	2.22 (0.57, 8.59)
Both equally	0.78 (0.38, 1.58)	0.78 (0.29, 2.10)
Education (reference group: more than high school)		
None to 6th grade	2.43 (1.25, 4.73)	0.90 (0.29, 2.89)
7th to high school graduate	1.51 (0.80, 2.83)	1.05 (0.45, 2.45)
Not married (vs. married)	1.35 (0.82, 2.21)	2.98 (0.95, 4.10)
Unemployed (vs. employed)	1.81 (1.07, 3.06)	2.00 (0.84, 4.74)
Public health insurance (vs. private insurance)	1.60 (0.95, 2.68)	.47 (0.21, 1.07)
Clinical		
Mastectomy (vs. lumpectomy)	1.54 (0.91, 2.61)	0.77 (0.37, 1.61)
Histological grade (reference group: well/moderately differentiated)		
Poorly/undifferentiated	1.08 (0.63, 1.85)	1.18 (0.58, 2.43)
Missing	1.36 (0.68, 2.75)	0.45 (0.11, 1.82)
Stage at diagnosis (reference group: in situ)		
Localized	0.87 (0.44, 1.76)	0.64 (0.26, 1.61)
Regional	1.04 (0.50, 2.16)	0.92 (0.36, 2.37)
2 years or less since diagnosis (vs. more than 2 years)	0.96 (0.58, 1.57)	0.71 (0.35, 1.43)
Comorbid chronic condition (vs. none)	3.87 (2.14, 6.98)	4.95 (2.13, 11.47)
Coping Resources		
Cancer self-efficacy (continuous)	0.25 (0.16, 0.39)	0.30 (0.13, 0.66)
Spiritual well-being (continuous)	0.53 (0.37, 0.75)	0.57 (0.29, 1.11)
Social support from family and friends (continuous)	0.59 (0.40, 0.88)	1.50 (0.70, 3.21)
Social support from oncologist (continuous)	0.64 (0.46, 0.88)	0.89 (0.52, 1.46)

* Adjusted for other variables in the model