Published in final edited form as:

Psychooncology. 2016 November ; 25(11): 1286–1292. doi:10.1002/pon.3953.

Do Coping Strategies Mediate the Effects of Emotional Support on Emotional Well-Being among Spanish-Speaking Latina Breast Cancer Survivors?

Felisa A. Gonzales, PhD, MPH¹, Alejandra Hurtado-de-Mendoza, PhD², Jasmine Santoyo-Olsson, MS³, and Anna María Nápoles, PhD, MPH³

¹Cancer Prevention Fellowship Program, Healthcare Delivery Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD

²Department of Oncology, Cancer Prevention and Control Program, Lombardi Comprehensive Cancer Center, Georgetown University Medical Center, Washington, DC, USA

³Division of General Internal Medicine and the Center for Aging in Diverse Communities, Department of Medicine, University of California San Francisco, San Francisco, CA

Abstract

Objective—This study aimed to assess the relationship between emotional social support and emotional well-being among Latina immigrants with breast cancer, and test whether two culturally-relevant coping strategies, fatalism and acceptance, mediate this relationship.

Methods—150 Spanish-speaking Latinas within one year of breast cancer diagnosis participating in a randomized trial of a stress management intervention were assessed in-person at baseline and via telephone 6 months later. Survey measures included baseline emotional support, fatalism, and acceptance, and emotional well-being 6-months later. Generalized linear models estimated direct effects of emotional support on emotional well-being and indirect effects through fatalism and acceptance.

Results—Mean age was 50.1 (*SD* 10.9) years; most women had low education and acculturation levels. Emotional support was negatively associated with fatalism ($r=-0.24$, $p<0.01$) and positively associated with acceptance ($r=0.30$, $p<0.001$). Emotional support ($r=0.23$, $p=0.005$) and acceptance ($r=0.28$, $p=0.001$) were positively, and fatalism ($r=-0.36$, $p<0.0001$) was negatively, associated with emotional well-being. In multivariable models, emotional support was associated with emotional well-being ($b=0.88$, 95% *CI*: 0.24, 1.52). This direct effect remained significant when additionally controlling for fatalism ($b=0.66$, 95% *CI*: 0.03, 1.30) and acceptance ($b=0.73$, 95% *CI*: 0.09, 1.37) in separate models. There was a significant indirect effect of emotional support on emotional well-being through fatalism ($b=0.21$, 95% *CI*: 0.04, 0.51) and a marginally significant effect through acceptance ($b=0.15$, 95% *CI*: 0.001, 0.43).

Corresponding Author: Anna M. Nápoles, Ph.D., M.P.H., University of California San Francisco, 3333 California Street, Suite 335, San Francisco, CA 94118-1944 USA, Phone: +1-415 476-6290, Fax: +1-415 502-8291, anapoles@ucsf.edu.

The authors have no conflicts of interest to declare.

Conclusions—Emotional support may increase well-being among Spanish-speaking Latina cancer survivors by reducing cancer fatalism.

Keywords

breast cancer; oncology; emotional support; emotional well-being; coping; Latino/Hispanic

Background

A breast cancer diagnosis can be a traumatic, life-changing event that is commonly accompanied by negative emotions and psychological distress [1]. U.S. Latinas with breast cancer may be particularly vulnerable to cancer-related distress [2], reporting significantly higher levels of distress and depression than their White and Asian counterparts [3]. These disparities are concerning given evidence linking psychological distress to quality of life and overall survival among breast cancer patients [4].

Social Support

The determinants of psychosocial health disparities among Latina breast cancer survivors are poorly understood. Differences in the extent and effects of social support received may help explain these disparities. Social support, a multidimensional construct, [5] has been associated positively with health-related quality of life (HrQoL) [6, 7]. Several studies have found limited social support among Latinas with breast cancer compared to their African American and White counterparts [8, 9]. However, little is known about the relationship between emotional support, a specific type of social support, and emotional well-being, a specific HrQoL domain, among Latina women with breast cancer.

Culturally Salient Coping Strategies

The mechanisms through which emotional support affects emotional well-being are poorly understood [10], but research with breast cancer survivors suggests that coping strategies may underlie this relationship [11]. Coping strategies include cognitive-behavioral means of dealing with overwhelming situational demands [12]. Evidence suggests that when faced with breast cancer, women of color cope differently than White women [13]. Two culturally embedded cognitive coping strategies of interest in this study are fatalism and acceptance.

Cancer fatalism is the belief that death will inevitably follow a cancer diagnosis [14]. Fatalism has been associated with a decreased likelihood of receipt of breast, cervical, and colorectal cancer screenings [15] and was more prevalent among Latinos than Whites [16]. Regardless of ethnicity, little research has examined relationships between fatalism and emotional well-being among cancer survivors. One study found fatalism to be negatively associated with emotional well-being among Latina breast cancer survivors, although this relationship disappeared when controlling for patient satisfaction [17].

Acceptance, described as inner strength in the face of adversity that derives from one's faith in a higher power [18], may facilitate positive emotional outcomes of cancer. Compared to white women, quiet acceptance may be more common among women of color, including Latinas, who attempt to minimize the burden of their diagnosis on their families and use

spiritual beliefs as a source of strength [13, 18]. Despite findings that acceptance is a common response among women from various racial/ethnic groups and religious faiths [19], the salience of this culturally influenced construct has not been well explored among Latinas with breast cancer.

Conceptual Framework

This study seeks to further our understanding of a specific component of HrQoL, emotional well-being, among immigrant Latina breast cancer survivors and potential mechanisms that might help explain their HrQoL disparities [3, 6]. This mediation approach was informed by the Response Shift Framework [20]. This framework has several components: a change in health status that serves as a catalyst (e.g., cancer diagnosis), antecedents that are characteristics of the individual (e.g., culture or ethnicity), mechanisms, that is, cognitive, behavioral or affective processes to accommodate changes in health status (e.g., increased perceived emotional support), response shift or change in values as a result of accommodating the illness (e.g., reduced fatalism due to changes in emotional support), leading to improved perceptions of quality of life (e.g., emotional well-being). Applying this framework, a cancer diagnosis could lead to changes in perceived emotional support, which might result in a response shift, and subsequently changes in perceived emotional well-being. We hypothesized that emotional support and acceptance would be positively, and fatalism would be negatively, related to emotional well-being. Furthermore, we hypothesized that fatalism and acceptance would mediate the association between emotional support and emotional well-being.

Methods

Study participants

The sample consisted of 150 foreign-born, Spanish-speaking, self-identified Latinas living in one of five Northern California counties and diagnosed with Stage 0 to IIIC primary breast cancer in the past year. Women were recruited from clinical and community settings and participated in a two arm (intervention vs. wait list-control) 6-month randomized controlled trial of a cognitive-behavioral stress management intervention designed for Spanish-speaking Latinas recently diagnosed with breast cancer. The Nuevo Amanecer intervention was an individualized Spanish-language program that provided training, coaching, modeling, and practice in cognitive-behavioral coping skills to actively manage stress and emotions. The study procedures [21] and intervention [22] are described in detail elsewhere. The study protocol was approved by the University of California San Francisco Committee on Human Research and participants' written informed consent was obtained.

Measures

Participants completed a 60-minute baseline in-person survey and 30-minute telephone surveys at 3 months and 6 months (in Spanish). Women received \$30 for each survey. Cancer treatment variables were obtained from medical records. All variables for the current study were from the baseline assessment except for the emotional well-being outcome, which was assessed at 6-months.

Demographics—Women reported their age, marital status, employment status, educational level, and country of origin.

Emotional Support—Emotional support was assessed using the 8-item emotional support subscale from the Medical Outcomes Study Social Support Survey [5]. Items asked respondents how often they feel they have someone who they can confide in about their problems and solicit advice, suggestions, or information using a 5-point Likert scale ranging from “Never” to “All of the time”. Scale scores were calculated as the mean of non-missing items, with higher scores indicating more emotional support. Exploratory factor analysis supported a one factor solution in the current sample and internal consistency was excellent ($\alpha=0.93$).

Fatalism—Two items from the Powe Fatalism Inventory [23, 24] that reflected perceived inevitability of death were used to measure cancer fatalism. Participants indicated their agreement using a 5-point Likert scale ranging from “Strongly disagree” to “Strongly agree.” These items have been used previously with Latina breast cancer survivors [17] and demonstrated acceptable internal consistency in our sample ($\alpha=0.61$). Scores were calculated as the mean of non-missing items with higher scores indicating greater fatalism.

Acceptance—Three items from the Benefit Finding Scale (BFS) [25, 26] assessed participants’ intentional acceptance of uncontrollable or unexpected things in their lives using a 5-point Likert scale ranging from “Not at all” to “Extremely”. Confirmatory factor analysis of the BFS has shown these three items to comprise a meaningful subscale [27]. Internal consistency in our sample was good ($\alpha=0.89$). Scores were calculated as the mean of non-missing items, with higher scores indicating greater acceptance.

Emotional well-being—The emotional well-being subscale of the Functional Assessment of Cancer Therapy Quality of Life Instrument was the outcome measure [28]. A validation study found one item (“I am satisfied with how I am coping with my illness”) to be problematic for U.S. Latinas [29]. Based on exploratory factor analysis conducted in our sample, we dropped this item due to its low factor loading. The final 5-item scale asked women about their emotions and concerns related to their illness using a 5-point Likert scale ranging from “Not at all” to “Very much”. The scale demonstrated good internal consistency ($\alpha=0.80$). Scale scores were calculated as the mean of non-missing items as recommended by the publishers of the scale [30].

Potential confounders—History of depression, language acculturation, religious faith, and treatment-related variables were identified as potential confounders. To assess depression history, women were asked whether they had been told ever by a doctor or mental health professional that they suffered from depression. Acculturation level was assessed using a well validated 4-item Short Acculturation Scale for Hispanics ($\alpha=0.82$) [31] which asks respondents what language they read and speak in general, speak at home, usually think in, and speak with friends, employing a 5-point Likert scale ranging from “Only Spanish” to “Only English”. Scores were calculated as the average of non-missing items, with higher scores indicating greater acculturation.

Religious faith was measured using the faith subscale of the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale (version 4) [32]. Four items assess the degree to which a woman's faith provides comfort and strength in the face of illness ($\alpha=0.90$) using a 5-point Likert scale ranging from "Not at all" to "Very much". The scale score was the mean of non-missing items, with higher scores indicating greater faith.

Cancer treatment variables included breast cancer stage, surgery type, and receipt of radiation or chemotherapy, verified by medical chart review.

Statistical Analysis

Means were calculated for continuous variables and frequencies for categorical variables. Relationships between potential confounders and emotional well-being were assessed using correlations for continuous covariates and t-tests or unbalanced ANOVAs for categorical variables. Potential confounders associated with emotional well-being at $p<0.15$ were retained in multivariable mediation analyses.

Generalized linear models provided estimates of direct effects. Mediation hypotheses were tested using Hayes' PROCESS macro [33]. This macro provides an estimate of the indirect effect of an independent variable (X; emotional support) on a dependent variable (Y; emotional well-being). These estimates are obtained by first regressing X on a proposed mediator (M) (step 1), and then regressing X and M on Y (step 2). The parameter estimate for the regression of X on M (obtained in step 1) is multiplied by the parameter estimate for the regression of Y on M while controlling for X (obtained in step 2) to yield the estimated indirect effect. The macro uses bootstrapping to generate a sampling distribution of the indirect effect and obtain bias-corrected confidence intervals. Confidence intervals that do not include zero indicate a significant effect. This method is recommended for small-to-moderate sample sizes [34] as it does not require the assumption that indirect effects be normally distributed and reduces type II error [35]. Separate mediation models were run for fatalism and acceptance. All analyses were conducted using SAS version 9.3.

Results

Description of the Sample

Participants ranged in age from 28 to 80 ($M=50.13$, $SD=10.91$) (Table 1). All 150 women were immigrants; most were from Mexico (67%). Mean acculturation levels were quite low ($M=1.29$, $SD=0.54$). Two-thirds of women had less than a high school education and about half were married. The majority (77%) reported no previous history of depression and most were diagnosed with invasive breast cancer (Stage I, II, or III). All participants reported having surgery, with about half reporting lumpectomy (56%).

Bivariate Analyses

Significant correlations in the expected directions between emotional support, fatalism, acceptance, and emotional well-being were observed (Table 2). At baseline, emotional support was negatively associated with fatalism ($r=-0.24$, $p<0.01$) and positively associated with acceptance ($r=0.30$, $p<0.001$). Baseline measures of emotional support ($r=0.23$,

$p=0.005$) and acceptance ($r=0.28$, $p<0.001$) were positively correlated with emotional well-being at 6 months. Fatalism was negatively correlated with emotional well-being ($r=-0.36$, $p<0.0001$). The two coping strategies were negatively correlated with each other ($r=-0.25$, $p<0.01$).

Four of the potential confounders and demographic characteristics were associated with emotional well-being at the $p<0.15$ level and included in multivariable analyses (Table 3). Acculturation level was negatively correlated ($r=-0.16$) and faith was positively correlated ($r=0.15$) with emotional well-being. Women with a history of depression at baseline ($t(141)=3.15$, $p<.01$) or assigned to the wait list control group ($t(141)=-2.38$, $p<.05$) reported significantly lower emotional well-being 6 months later, compared to women reporting no depression or in the treatment arm. Intervention condition was explored as a potential moderator of the relationships between emotional support ($p=0.33$), acceptance ($p=0.12$), and fatalism ($p=0.90$) with emotional well-being. No evidence of moderation was found and intervention condition was included as a covariate in the multivariable models.

Multivariable Analyses

All multivariable models controlled for religious faith, history of depression, acculturation, and intervention condition.

Direct Effects (Table 4)

Step 0: Regression of emotional well-being on emotional support.

A significant direct effect of emotional support on emotional well-being was observed when controlling for covariates ($b=0.88$, 95% CI: 0.24, 1.52).

Step 1: Regression of emotional support on fatalism and acceptance.

At baseline, emotional support was negatively associated with fatalism ($b=-0.24$, 95% CI: -0.42 , -0.06) and positively associated with acceptance ($b=0.19$, 95% CI: 0.02, 0.36), controlling for covariates.

Step 2: Regression of fatalism and acceptance on emotional well-being, controlling for emotional support.

Fatalism was negatively associated ($b=-0.89$, 95% CI: -1.47 , -0.32) and acceptance was positively associated ($b=0.77$, 95% CI: 0.14, 1.40) with emotional well-being, controlling for covariates. Emotional support was positively associated with emotional well-being in the model controlling for fatalism and covariates ($b=0.66$, 95% CI: 0.03, 1.30) and also in the model controlling for acceptance and covariates ($b=0.73$, 95% CI: 0.09, 1.37).

Indirect Effects (Mediation) (Table 4)—There was a significant indirect effect of emotional support on emotional well-being through fatalism ($b=0.21$, 95% CI: 0.04, 0.51), controlling for covariates. The indirect effect through acceptance was marginally significant ($b=0.15$, 95% CI: 0.001, 0.43). In post-hoc analyses, removing religious faith from the model resulted in a stronger and statistically significant indirect effect of acceptance ($b=0.21$, 95% CI: 0.05, 0.52).

Conclusions

This study sought to test whether two culturally salient coping styles, fatalism and acceptance, operate as mediators of the relationship between emotional support and emotional well-being among Latina immigrants with breast cancer. Consistent with other studies [6, 11], emotional support was positively associated with emotional well-being in bivariate and multivariable analyses. Fatalism mediated this relationship whereas acceptance did so only marginally.

The finding that fatalism mediated the relationship between emotional support and emotional well-being is consistent with the response shift framework but provides a more nuanced, multilevel perspective. Sprangers and Schwartz [20] consider both emotional support and coping to be intermediary mechanisms between a catalyst, e.g., a breast cancer diagnosis, and a response shift leading to changed perceptions of QoL. The current study enhances this framework by demonstrating that a cultural belief, fatalism, mediates the influence of an emotional support, on a domain of QoL, emotional well-being [14]. Qualitative research could help identify the specific adaptive processes that change in Latina cancer survivors who endorse fatalistic beliefs.

This study is among the first to explore whether acceptance mediates the association between emotional support and emotional well-being. In a qualitative study, quiet acceptance was identified as an overarching theme regarding the post-treatment experiences of South Asian breast cancer survivors in Canada but its relationship to well-being was not examined [18]. Acceptance has been postulated to function as a coping strategy among Latina breast cancer survivors in the U.S. but not explicitly tested as such [36]. The benefit finding scale from which the acceptance subscale was drawn has shown inconsistent associations with various measures of well-being in samples comprised primarily of White women. Whereas two studies found evidence of positive [25] or null [37] associations with indicators of poor well-being, another study with a more diverse sample of breast cancer survivors found a negative association between benefit finding and emotional distress [26]. Use of specific benefit finding subscales and more studies among ethnically diverse breast cancer survivors could help clarify these conflicting findings [27].

The inclusion of religious faith in the multivariable mediation models may explain why we did not see an indirect effect of emotional support on emotional well-being operating through acceptance. For example, one study found higher levels of benefit finding among women of color than their White counterparts but this difference was eliminated when controlling for religious coping [26]. Among South Asian breast cancer survivors, acceptance was closely tied to faith; they described an inner strength derived from their religious beliefs, which helped them face their diagnosis [18]. Similar to our results, another study found that belief in divine control was positively associated with acceptance [38]. These studies align with a recent meta-analysis that found that women of color are more likely than their White counterparts to use spirituality, faith, and prayer as coping mechanisms [13]. Thus, the association between acceptance and religious faith may have rendered any unique indirect effect of acceptance insignificant; in fact, removing religious

faith from the model resulted in a stronger and statistically significant mediation effect of acceptance on the relationship between emotional support and emotional well-being.

Fatalism, which can be viewed as a maladaptive coping style, demonstrated a stronger mediation effect than the more adaptive coping style of acceptance. Similar to our results, a study conducted in a sample of low-income, primarily White and African American women with breast cancer found that a maladaptive coping strategy, self-blame, mediated the effects of social support on emotional well-being, and that these effects were stronger than the mediating effects of positive reframing [11]. It seems reasonable that disadvantaged groups with less access to coping resources may assume more maladaptive coping strategies or have less of a sense of self-efficacy and control when faced with a health crisis, compared to more advantaged groups; this hypothesis deserves further investigation. Some researchers have argued that fatalism is not a cultural value, but rather reflects realities of poverty and lack of access to quality healthcare and treatment [39]. As these types of macro-influences are not easily addressed with health interventions, the evidence that emotional support, a mutable risk factor, is associated with emotional well-being through reductions in fatalism suggests a promising intervention strategy. Our findings suggest that referral of newly diagnosed Spanish-speaking Latina patients to emotional support services may help address their fatalistic responses.

A few limitations warrant mention. Although emotional well-being was assessed prospectively via telephone, emotional support and coping strategies were both measured via in-person interviews at baseline. Ideally, the mediators (fatalism and acceptance) would have been assessed after emotional support and before emotional well-being using a consistent survey mode. Our single item measure of history of depression may have been subject to recall bias. Also, we were unable to explore how acculturation might moderate the observed associations because, by design, all women had low levels of acculturation. This is an important direction for future research given that others have found an association between acculturation, self-reported health [36] and QoL [40]. The relatively small sample size may have contributed to the marginal significance of the indirect effect of acceptance. Replication with larger, more diverse samples of Latinas is needed.

This study makes a novel contribution to the literature by using a theory-driven approach to investigate the impact of a specific type of emotional support on emotional well-being, and assessing culturally salient mediators that might operate as mechanisms of ethnic disparities in psychosocial health outcomes of breast cancer. Future research should explore the determinants of emotional support and fatalism to inform the development of interventions that aim to improve the HrQoL of Latina cancer survivors.

Acknowledgements

This research was supported by the California Breast Cancer Research Grants Program Office of the University of California grants number 15BB-1300 and 15BB-1301; grant number 1U54CA153511 from the National Cancer Institute; and grant number 1 P30 AG15272 from the National Institute on Aging.

References

1. Compas BE, Luecken LJ. Psychological adjustment to breast cancer. *Current Directions in Psychological Science*. 2002; 11(3):111–114.
2. Apollo A, Crew K, Campbell J, et al. High rates of psychosocial stress among Hispanic breast cancer survivors (No. 18S). *Journal of Clinical Oncology*. 2007 Jun 20.25 Supplement(18):9113.
3. Luckett T, Goldstein D, Butow PN, et al. Psychological morbidity and quality of life of ethnic minority patients with cancer: a systematic review and meta-analysis. *The Lancet. Oncology*. 2011; 12(13):1240–1248. [PubMed: 21996168]
4. Montazeri A. Health-related quality of life in breast cancer patients: A bibliographic review of the literature from 1974 to 2007. *Journal of Experimental & Clinical Cancer Research : CR*. 2008; 27:32. [PubMed: 18759983]
5. Sherbourne CD, Stewart AL. The MOS social support survey. *Social Science & Medicine*. 1991; 32(6):705–714. [PubMed: 2035047]
6. Kwan ML, Ergas IJ, Somkin CP, et al. Quality of life among women recently diagnosed with invasive breast cancer: The Pathways Study. *Breast Cancer Research and Treatment*. 2010; 123(2): 507–524. [PubMed: 20140494]
7. Leung J, Pachana NA, McLaughlin D. Social support and health-related quality of life in women with breast cancer: A longitudinal study. *Psycho-Oncology*. 2014; 23(9):1014–1020. [PubMed: 24700668]
8. Ashing-Giwa KT, Tejero JS, Kim J, Padilla GV, Hellemann G. Examining predictive models of HRQOL in a population-based, multiethnic sample of women with breast carcinoma. *Quality of Life Research*. 2007; 16(3):413–428. [PubMed: 17279444]
9. Janz NK, Mujahid MS, Hawley ST, Griggs JJ, Hamilton AS, Katz SJ. Racial/ethnic differences in adequacy of information and support for women with breast cancer. *Cancer*. 2008; 113(5):1058–1067. [PubMed: 18618494]
10. Thoits PA. Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*. 2011; 52(2):145–161. [PubMed: 21673143]
11. Kim J, Han JY, Shaw B, McTavish F, Gustafson D. The roles of social support and coping strategies in predicting breast cancer patients' emotional well-being: Testing mediation and moderation models. *Journal of Health Psychology*. 2010; 15(4):543–552. [PubMed: 20460411]
12. Lazarus, R.; Folkman, S. *Stress, appraisal and coping*. New York: Springer; 1984.
13. Yoo GJ, Levine EG, Pasick R. Breast cancer and coping among women of color: A systematic review of the literature. *Supportive Care in Cancer*. 2014; 22(3):811–824. [PubMed: 24389825]
14. Ramirez AS. Fatalism and cancer risk knowledge among a sample of highly acculturated Latinas. *Journal of Cancer Education*. 2014; 29(1):50–55. [PubMed: 24078314]
15. Espinosa de Los Monteros K, Gallo LC. The relevance of fatalism in the study of Latinas' cancer screening behavior: A systematic review of the literature. *International Journal of Behavioral Medicine*. 2011; 18(4):310–318. [PubMed: 20953916]
16. Perez-Stable EJ, Sabogal F, Otero-Sabogal R, Hiatt RA, McPhee SJ. Misconceptions about cancer among Latinos and Anglos. *JAMA*. 1992; 268(22):3219–3223. [PubMed: 1433762]
17. Graves KD, Jensen RE, Canar J, et al. Through the lens of culture: Quality of life among Latina breast cancer survivors. *Breast Cancer Research and Treatment*. 2012; 136(2):603–613. [PubMed: 23085764]
18. Singh-Carlson S, Wong F, Martin L, Nguyen SK. Breast cancer survivorship and South Asian women: Understanding about the follow-up care plan and perspectives and preferences for information post treatment. *Current Oncology*. 2013; 20(2):e63–e79. [PubMed: 23559888]
19. Levine EG, Yoo G, Aviv C, Ewing C, Au A. Ethnicity and spirituality in breast cancer survivors. *Journal of Cancer Survivorship : Research and Practice*. 2007; 1(3):212–225. [PubMed: 18648972]
20. Sprangers MA, Schwartz CE. Integrating response shift into health-related quality of life research: A theoretical model. *Social Science & Medicine*. 1999; 48(11):1507–1515. [PubMed: 10400253]

21. Napoles AM, Santoyo-Olsson J, Ortiz C, et al. Randomized controlled trial of Nuevo Amanecer: A peer-delivered stress management intervention for Spanish-speaking Latinas with breast cancer. *Clinical Trials*. 2014; 11(2):230–238. [PubMed: 24577971]
22. Napoles AM, Ortiz C, Santoyo-Olsson J, et al. Nuevo amanecer: Results of a randomized controlled trial of a community-based, peer-delivered stress management intervention to improve quality of life in Latinas with breast cancer. *American Journal of Public Health*. 2015; 105(Suppl 3):e55–e63. [PubMed: 25905829]
23. Powe BD. Cancer fatalism among elderly Caucasians and African Americans. *Oncology Nursing Forum*. 1995; 22(9):1355–1359. [PubMed: 8539176]
24. Lopez-McKee G, McNeill JA, Eriksen LR, Ortiz M. Spanish translation and cultural adaptation of the Powe Fatalism Inventory. *Journal of Nursing Scholarship*. 2007; 39(1):68–70. [PubMed: 17393968]
25. Tomich PL, Helgeson VS. Is finding something good in the bad always good? Benefit finding among women with breast cancer. *Health Psychology*. 2004; 23(1):16–23. [PubMed: 14756599]
26. Urcuyo KR, Boyers AE, Carver CS, Antoni MH. Finding benefit in breast cancer: Relations with personality, coping, and concurrent well-being. *Psychology & Health*. 2005; 20(2):175–192.
27. Weaver KE, Llabre MM, Lechner SC, Penedo F, Antoni MH. Comparing unidimensional and multidimensional models of benefit finding in breast and prostate cancer. *Quality of Life Research*. 2008; 17(5):771–781. [PubMed: 18500579]
28. Brady MJ, Cella DF, Mo F, et al. Reliability and validity of the Functional Assessment of Cancer Therapy-Breast quality-of-life instrument. *Journal of Clinical Oncology*. 1997; 15(3):974–986. [PubMed: 9060536]
29. Ashing-Giwa K, Rosales M. A cross-cultural validation of patient-reported outcomes measures: a study of breast cancers survivors. *Quality of Life Research*. 2013; 22(2):295–308. [PubMed: 22367682]
30. Functional Assessment of Chronic Illness Therapy. [Accessed May 2014] <http://www.facit.org/>.
31. Marin G, Sabogal F, Marin B, Otero-Sabogal R, Perez-Stable E. Development of a short acculturation scale for Hispanics. *Hispanic Journal of Behavioral Sciences*. 1995; 9(2):183–205. doi:
32. Peterman AH, Fitchett G, Brady MJ, Hernandez L, Cella D. Measuring spiritual well-being in people with cancer: the functional assessment of chronic illness therapy--Spiritual Well-being Scale (FACIT-Sp). *Annals of Behavioral Medicine*. 2002; 24(1):49–58. [PubMed: 12008794]
33. Hayes AF. PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. 2012 [Accessed October 2014] <http://www.afhayes.com/public/process2012.pdf>.
34. Fritz MS, Mackinnon DP. Required sample size to detect the mediated effect. *Psychological Science*. 2007; 18(3):233–239. [PubMed: 17444920]
35. Preacher KJ, Hayes AF. SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*. 2004; 36(4):717–731.
36. Garcia-Jimenez M, Santoyo-Olsson J, Ortiz C, Lahiff M, Sokal-Gutierrez K, Napoles AM. Acculturation, inner peace, cancer self-efficacy, and self-rated health among Latina breast cancer survivors. *Journal of Health Care for the Poor and Underserved*. 2014; 25(4):1586–1602. [PubMed: 25418229]
37. Cordova MJ, Cunningham LL, Carlson CR, Andrykowski MA. Posttraumatic growth following breast cancer: a controlled comparison study. *Health Psychology*. 2001; 20(3):176–185. [PubMed: 11403215]
38. Umezawa Y, Lu Q, You J, Kagawa-Singer M, Leake B, Maly RC. Belief in divine control, coping, and race/ethnicity among older women with breast cancer. *Annals of Behavioral Medicine*. 2012; 44(1):21–32. [PubMed: 22529040]
39. Abraido-Lanza AE, Viladrich A, Florez KR, Cespedes A, Aguirre AN, De La Cruz AA. Commentary: fatalismo reconsidered: a cautionary note for health-related research and practice with Latino populations. *Ethnicity & Disease*. 2007; 17(1):153–158. [PubMed: 17274225]

40. Janz NK, Mujahid MS, Hawley ST, et al. Racial/ethnic differences in quality of life after diagnosis of breast cancer. *Journal of Cancer Survivorship : Research and Practice*. 2009; 3(4):212–222. [PubMed: 19760151]

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 1

Demographic Characteristics and Treatment History (N=150)

	<i>Mean</i>	<i>SD</i>
Age at diagnosis	50.13	10.91
Acculturation	1.29	0.54
	<i>Frequency</i>	<i>Percent</i>
Married		
No	70	46.67
Yes	80	53.33
Region of origin		
Mexico	101	67.33
Central America	35	23.33
South America	14	9.33
Employed		
No	123	82.00
Yes	25	16.67
Missing	2	1.33
Education level		
Less than high school	100	66.67
High school graduate or higher	50	33.33
History of depression		
No	116	77.33
Yes	34	22.67
Stage		
Stage 0	40	26.67
Stage 1	23	15.33
Stage 2	56	37.33
Stage 3	31	20.67
Surgery type		
Lumpectomy	84	56.00
Mastectomy	66	44.00
Radiation		
No	48	32.00
Yes	102	68.00
Chemotherapy		
No	66	44.00
Yes	84	56.00

Table 2Correlations among Primary Variables of Interest (N=150^{*})

	1	2	3	4
1. Emotional well-being (at 6 mo.) [*]	1.00	0.23	-0.36	0.28
2. Emotional Social Support		1.00	-0.24	0.30
3. Fatalism			1.00	-0.25
4. Acceptance				1.00
Mean	15.60	3.79	1.18	2.59
<i>SD</i>	3.70	0.97	1.02	0.94

All significant a p .005

^{*} N=143 for emotional well-being correlations

Table 3

Relationships between Potential Covariates and Emotional Well-Being (N=143)

Continuous	<i>r</i>	<i>p</i>
Faith	0.15	0.07
Acculturation	−0.16	0.06
Age at dx	0.03	0.72
Categorical	<i>t or F</i>	<i>p</i>
History of depression	3.15	0.00
Married	1.15	0.25
Employed	−1.29	0.20
Education	−0.13	0.90
Stage	0.36	0.78
Surgery type	−0.08	0.94
Radiation	−0.32	0.75
Chemotherapy	−0.83	0.41
Intervention condition	−2.38	0.02

Table 4
Direct and Indirect Effects of Emotional Social Support on Emotional Well-Being

	b	SE	t	p	Lower	Upper	95% CI
Direct Effects							
Step 0: Regression of Emotional Well-Being on Emotional Social Support (without Mediators)							
Emotional social support	0.88	0.32	2.71	0.01	0.24	1.52	
Intervention condition	1.77	0.57	3.10	0.00	0.64	2.91	
Faith	0.00	0.11	-0.03	0.97	-0.22	0.22	
History of depression	-2.44	0.71	-3.44	0.00	-3.84	-1.04	
Acculturation	-1.04	0.57	-1.82	0.07	-2.18	0.09	
Step 1: Regression of Mediators on Emotional Social Support							
Fatalism							
Emotional social support	-0.24	0.09	-2.61	0.01	-0.42	-0.06	
Intervention condition	-0.10	0.16	-0.62	0.53	-0.42	0.22	
Faith	-0.02	0.03	-0.52	0.61	-0.08	0.05	
History of depression	0.77	0.20	3.81	0.00	0.37	1.17	
Acculturation	0.01	0.16	0.05	0.96	-0.32	0.33	
Acceptance							
Emotional social support	0.19	0.09	2.27	0.03	0.02	0.36	
Intervention condition	0.16	0.15	1.08	0.28	-0.14	0.46	
Faith	0.08	0.03	2.82	0.01	0.03	0.14	
History of depression	-0.03	0.19	-0.15	0.88	-0.40	0.34	
Acculturation	-0.05	0.15	-0.33	0.74	-0.35	0.25	
Step 2: Regression of Emotional Well-Being on Mediators and Emotional Social Support							
Fatalism							
Fatalism	-0.89	0.29	-3.06	0.00	-1.47	-0.32	
Emotional social support	0.66	0.32	2.06	0.04	0.03	1.30	

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

95% CI						
	p	SE	t	p	Lower	Upper
Intervention condition	1.68	0.56	3.03	0.00	0.59	2.78
Faith	-0.02	0.11	-0.17	0.87	-0.23	0.20
History of depression	-1.75	0.72	-2.42	0.02	-3.19	-0.32
Acculturation	-1.04	0.56	-1.86	0.07	-2.14	0.07
Acceptance						
Acceptance	0.77	0.32	2.43	0.02	0.14	1.40
Emotional social support	0.73	0.32	2.25	0.03	0.09	1.37
Intervention condition	1.65	0.56	2.92	0.00	0.53	2.76
Faith	-0.07	0.11	-0.60	0.55	-0.29	0.16
History of depression	-2.42	0.70	-3.47	0.00	-3.80	-1.04
Acculturation	-1.00	0.56	-1.78	0.08	-2.12	0.11
Indirect Effects						
Fatalism	0.21	0.12			0.04	0.51
Acceptance	0.15	0.11			0.00	0.43