Quality of life among Latina breast cancer patients: a systematic review of the literature

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Abstract

Introduction The Latino population is the most rapidly growing ethnic minority in the United States and Latinas have higher rates of advanced breast cancer and more rigorous treatments than White women. However, the literature lacks reviews on quality of life among this population of breast cancer patients.

Methods A systematic review of the breast cancer quality of life (QOL) literature was conducted among studies that provided a comparison of mental, physical, social, or sexual QOL between Latinas and other racial/ethnic groups. Of the 375 studies reviewed, 20 quantitative studies and two qualitative studies met criteria for inclusion.

Results Latinas were more likely to report poor mental, physical, and social QOL, relative to non-Latinas. Only four studies assessed sexual QOL, making it difficult to draw any conclusions. Of these four QOL domains, the largest disparity was found in the area of mental health in which Latinas reported poorer QOL compared to non-Latina Whites and Blacks.

Discussion/conclusions Most quantitative studies revealed either that Latinas consistently evidenced significantly lower QOL than non-Latinas on all measures (6 studies) or reported mixed findings in which Latinas generally demonstrated significantly worse QOL on most, but not all, measures (12 studies) included in the study. Explanatory mechanisms including socio-demographic, treatment-related, and culturally-relevant factors are discussed. Implications for research design, measurement, and clinical work are also included.

Implications for cancer survivors Although not entirely consistent, data suggest that Latina breast cancer survivors on average experience worse QOL than non-Latina Whites.

Understanding ethnic differences in QOL among breast cancer survivors can inform interventions targeted at improving health status for Latinas.

Keywords Latina · Literature review · Quality of life · Breast cancer · Cancer survivorship

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Among Latinas living in the United States, breast cancer is the most common form of cancer and the leading cause of cancer death [1]. Compared to non-Latina White women, Latinas are more likely to be diagnosed with regional or distant cancer [1]. They are also more likely to undergo mastectomy (versus breast-conserving surgery) and are more likely to die of breast cancer than non-Latina White women diagnosed at a similar age and stage of cancer [1–4]. Given the higher rates of more advanced cancer and rigorous treatments reported in Latinas, the psychological and physical burden of breast cancer may be particularly grave for this ethnic group.

In the large body of research on cancer-related quality of life (QOL), however, relatively few studies have focused on the breast cancer experience of ethnic minority women, with the possible exception of Black women [5]. A

diagnosis of breast cancer might be especially disruptive for Latinas in light of culturally specific causal attributions about cancer, including the notion that cancer represents punishment for one's sins, as well as fatalistic beliefs about cancer [6–8]. The importance of attending to QOL in Latinas is underscored by the observations that the Latino population is currently the largest and fastest growing ethnic minority population in the United States [9], and Latinos are overrepresented among low-income and underserved groups [10].

Quality of life is a multidimensional construct that encompasses various areas of functioning, including emotional, physical, sexual, and social domains [11]. The physical domain pertains to a subjective evaluation of health status and bodily functioning (e.g., pain, fatigue, incontinence, lymphedema), whereas the emotional component encompasses psychological functioning, including positive and negative indicators of mood (e.g., anxiety, depressive symptoms, distress, affect) and perceived limitations due to emotional problems. Sexual quality of life generally refers to perceived sexual functioning, changes in sexual desire, and body image distress. The social domain often includes the impact of the disease on an individual's social role and the perceived utility of social support. These domains are not orthogonal, but rather are inter-related [11, 12]. For example, the experience of pain or fatigue may limit social and familial role performance. Additional indicators of quality of life include perceived cognitive functioning (e.g., memory) and spiritual well-being.

The primary aim of this report is to present a systematic review of the literature to compare the QOL of Latinas diagnosed with breast cancer to QOL in women of other racial/ethnic groups. We consider evidence on socio-demographic factors, treatment-related variables, and other characteristics, such as level of acculturation, that may account for differences in QOL. Finally, we discuss directions for research and application.

Method

Defining quality of life

Our operational definition of quality of life was guided by findings from previous empirical studies and reviews that sought to illuminate the QOL of patients with breast cancer [5, 12, 13]. The current review suggests four primary domains of QOL: mental, physical, social, and sexual. Low quality of life was operationalized as disruption in one of the aforementioned domains, presence of negative mood, or lack of positive mood. To illustrate, assessing the frequency of sexual activity in the absence of collecting information regarding its impact on functioning was not considered an assessment of QOL. Indices of QOL could be general or cancer-specific.

Inclusion and exclusion criteria

The current review included research on samples of women of self-identified Latina/Hispanic ethnic status with any stage of breast cancer. The U.S. Census Bureau [14] defines Latino as individuals who identify themselves or their heritage as Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or those whose origins are from Spain, the Spanish-speaking countries of Central or South America, and the Dominican Republic. To be included in the review, studies were required to provide a comparison of QOL between Latinas and at least one other ethnic/racial group. Studies were excluded if they did not report the QOL of Latinas as a separate group within the study. Dissertations, book chapters, and reviews were excluded.

A systematic review of the literature from 1985 to 2009 was conducted using PubMed and PsycInfo. Studies had to be available online by December of 2009. In light of the advances in medical treatment for breast cancer over the past two decades, studies before 1985 were not considered. Manuscripts were retrieved using primary keywords (i.e., QOL, Latina/Hispanic, breast cancer) in combination with other words (e.g., fatigue, SF-36, depression), amounting to 30 key phrases[1]. Another search was conducted to identify additional publications of all the authors whose manuscripts met entry criteria. References of selected studies were also reviewed to identify additional eligible studies.

In total, 375 studies were reviewed. Of these studies, 22 met criteria.[2] Studies were initially coded by the first author on 18 predetermined categories[3] previously employed in a review on quality of life in African American cancer survivors [5], and 25% of those were coded by the second author. Inter-rater reliability regarding agreement on the coding was 90%. Discrepancies were resolved through discussion among the authors.

Results

See Table 1 for socio-demographic and cancer-related descriptive data on each study's sample and Table 2 for information on research design, measures, and a summary of findings[4]. With regard to research design, two qualitative

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[1] A list of key phrases is available from the authors.
[2] One study by Tomich and Helgeson (2004) reported racial/ethnic differences in QOL. However, given the small subsample of Latinas, approximately 1% ($n=4$), this study was not included.
[3] List of variables: 1) study purpose, 2) number of participants, 3) location of study, 4) participants' heritage, 5) age, 6) stage of cancer, 7) cancer treatment, 8) comorbidities, 9) first or recurrent diagnosis, 10) time since diagnosis, 11) health insurance, 12) language spoken, 13) SES, 14) study design, 15) recruitment setting, 16) measures of QOL and corresponding estimates of internal consistencies, 17) data analytic plan, 18) results.
[4] References for measures used in the studies are available from the authors.

Table 1 Demographic data for studies included in the review

Authors	Study Sample	Age	Cancer Stage	Time Since Diagnosis or Surgery[1]	Income or Education
Ashing-Giwa et al., 2004	n=26 Latina; n=18 non-Latina White; n=24 Black; n=34 Asian American	Latina M=56 years, range=40–73	0 Latinas stage 0; 5 Latinas stage 1; 7 Latinas stage 2; 5 Latinas stage 3; 0 Latinas stage 4; 9 Latinas stage unknown	Latina M=4 years	Not provided
Ashing-Giwa et al., 2007[5]	n=183 Latina; n=179 non-Latina White; n=135 Blacks; n=206 Asian Americans	Latina M=50	18 Latinas stage 0; 59 Latinas stage 1; 75 Latinas stage 2; 28 Latinas stage 3	Latina M=2.9 years	87 Latinas <25 K; 36 Latinas 25–45 K; 27 Latinas 45–75 K; 23 Latinas >75 K; Latinas reported significantly lower income than other groups of women
Ashing-Giwa et al., 2009	n=183 Latina; n=179 non-Latina White; n=135 Blacks; n=206 Asian American	*M=55.03 years, range 29–62; Latinas significantly younger at diagnosis than other ethnic groups	*332 women stage 1; 267 women stage 2; 95 women stage 3	*M=2.98 years, SD=1.67	*205 women <25 K; 312 women 25–75 K; 186 women >75 K
Lim et al., 2009	n=183 Latina; n=206 Asian	Latinas M=53.45 years, SD=11.5; No significant differences in age between Latinas and Asian women	18 Latinas stage 0; 59 Latinas stage 1; 75 Latinas stage 2; 28 Latinas stage 3; Latinas significantly more likely to be diagnosed at a later stage than Asians	Latinas M=2.93 years, SD=1.6; No significant differences between ethnic groups	90 Latinas <25 K; 39 Latinas 25 K – 45 K; 29 Latinas >45 K–75 K; 25 Latinas >75 K
Bowen et al., 2007	n=95 Latina; n=486 non-Latina White; n=199 Black	*M=55.55 years, SD=10.4	*179 women in situ; 453 women localized; 172 women regional (unstaged)	*6.1, 24, and 35 months	*54 women <=10 K; 86 women >10 K–20 K; 93 women >20 K–30 K; Latinas reported significantly lower income than Asians

Table 1 (continued)

Authors	Study Sample	Age	Cancer Stage	Time Since Diagnosis or Surgery[1]	Income or Education
	n=24 Other				168 women >30 K–50 K 211 women >50 K–70 K 113 women >70 K
Carver et al., 2003[6] Study 1	n=60 Latina n=26 Black n=149 non-Latina White	*M^2=53.59 years, SD=12.41	*10 women stage 0 135 women stage 1 90 women stage 2	*≤1 year post surgery *<8 weeks	*M=14.25 years, SD=2.87
Study 2	n=16 Latina n=5 Black n=72 non-Latina White n=4 Other	*M^2=50.37 years, SD=9.24	*9 women stage 0 47 women stage 1 41 women stage 2		*Years of education for full sample 15.71 years, SD=5.33
Petronis et al., 2003	n=62 Latina n=25 Black n=150 non-Latina White	*M=53.61 years, SD=12.42	*11 women stage 0 135 women stage 1 90 women stage 2	*≤1 year post surgery	*Years of education at diagnosis for full sample 14.25 years, SD=2.89
Spencer et al., 1999	n=48 Latina n=24 Black n=151 non-Latina White	*M=53.75 years, SD=12.62	*10 women stage 0 128 women stage 1 85 women stage 2	*≤1 year post surgery	*Years of education at diagnosis for full sample 14.39 years, SD=2.80
Carver et al., 2005[7]	n=32 Latina n=114 non-Latina White n=17 Black	* M=54.18 years Age at diagnosis, SD=10.61	*5 women stage 0 101 women stage 1 57 women stage 2	*5–13 years post surgery	*Years of education at diagnosis for full sample 14.18 years, SD=3.44
Carver et al., 2006	n=32 Latina n=114 non-Latina White n=17 Black	* M=54.18 years Age at diagnosis, SD=10.61	*5 women stage 0 101 women stage 1 57 women stage 2	*5–13 years after diagnosis	* Years of education at diagnosis for full sample 14.18 years, SD=3.44
Clauser et al., 2008	*n=over 5,500	Not provided for women with breast cancer	Not provided	Not provided	Not provided

Author/year	Sample (race/ethnicity)	Age	Stage	Time since diagnosis/surgery	Education/income
Culver et al., 2002	Sample 1 n=4 Latina n=1 Black n=70 non-Latina White Sample 2 n=49 Latina n=7 Black	Sample 1 *M=53.72 years, SD=11.14 Sample 2 *M=56.29 years, SD=10.27	Sample 1 *55 women stage 1 20 women stage 2 Sample 2 *5 women stage 0 21 women stage 1 30 women stage 2	*2 days prior to surgery 7 days post surgery 3, 6, 12 months post surgery	Sample 1 *M=14.63 years, SD=2.56 Sample 2 *M=9.04 years, SD=4.24[4]
Eversley et al., 2005	n=29 Latina n=35 Black n=35 non-Latina White n=17 Other	Latina M=47 years, range 29–68	7 Latinas stage 1 13 Latinas stage 2 7 Latinas stage 3 2 Latinas stage 4 Whites significantly more likely to be diagnosed with stage 1 than women from all other groups.	*All women diagnosed within the past 2 years	Latina M monthly income $1,119, range $0–$3,500 Non-Latina Whites reported significantly greater income than all other groups of women.
Fatone et al., 2007	n=12 Latina n=8 Black	*M=54.10 years, SD=10.54	*9 women stage 1–2 3 women stage 3–4 8 unknown stage	*13 women diagnosed between 1998–2001[3] 7 women diagnosed in 1997 or earlier	*7 women some high school or less 13 women high school graduate or some college
Fobair et al., 2006	n=45 Latina n=389 non-Latina White n=29 Black n=86 Asian	*n=107 Age <40 years n=442 Age ≥40 years	*88 women in situ 248 women localized 213 women regional (unstaged)	*253 women=2–4 months 275 women=5–7 months 20 women = 8 months or more	*102 women 12 years or less of school *446 women >12 years of school
Friedman et al., 2006.	n=22 Latina n=45 Black n=14 non-Latina White	*M=52 years, SD=10.2	Not provided	*M=26 months, SD=33.5	*14 less than 8 years 14 some high school 24 high school/GED 22 some college 7 college graduate
Fu et al., 2009	n=63 Latina n=58 non-Latina White	n=22 Latinas <45 n=16 Latinas 45–54	2 Latinas stage 0 17 Latinas stage 1	42 Latinas <2 years 18 Latinas 2–5 years	29 Latinas <10 K 11 Latinas 10 K–50 K

Table 1 (continued)

Authors	Study Sample	Age	Cancer Stage	Time Since Diagnosis or Surgery[1]	Income or Education
	n=18 Black	n=13 Latinas 55–64; n=9 Latinas 65+; *M=52.5, range=26–90	27 Latinas stage 2; 8 Latinas stage 3; 9 Latinas stage not reported	3 Latinas >5 years	8 Latinas 50 K–100 K; 3 Latinas >100 K; 12 Latinas income not reported
Giedzinska et al., 2004	n=78 Latina; n=233 Black; n=77 Asian American; n=233 non-Latina White	M=51.4, range 30–74 Latinas; Latinas significantly younger than non-Latina Whites and Blacks	* Women were stage 0, 1, or 2	Latina M=3.07 years, SD=1.21; No significant differences between ethnic groups	3 Latinas <15 K; 18 Latinas 15 K–30 K; 25 Latinas 30 K–45 K; 8 Latinas 45 K–60 K; 11 Latinas 60 K–75 K; 4 Latinas 75 K–100 K; 5 Latinas >100 K; Non-Latina Whites and Asians reported significantly higher income than Latinas.
Janz et al., 2009	n=344 Latina; n=386 Black; n=726 non-Latina White; n=160 high acculturation Latina; n=184 low acculturation Latina	Latinas high acculturation: n=34 age <50 years; n=50 age 50–70 years; n=16>70 years; Latina low acculturation: n=30 age <50 years; n=58 age 50–70 years; n=13>70 years; Latinas more likely to be <50 years than non-Latina Whites	Latina high acculturation: 16 stage 0; 41 stage 1; 29 stage 2; 14 stage 3; Latina low acculturation: 21 stage 0; 35 stage 1; 33 stage 2; 12 stage 3	*Women diagnosed between 2005–2007	Latinas high acculturation: 22 < High School diploma; 17 High School diploma; 61 > High School diploma; Latina low acculturation: 70 < High School diploma; 20 High School diploma; 10 > High School diploma
Maly et al., 2010	n=492 Latina; n=54 Black; n=292 non-Latina White	* M=50.8 years, SD=9.5	Not provided	*M=180 days, SD=20.8	* 377 women<High School; 534 women ≥ High School

Study	Sample	Age	Stage	Time since diagnosis	Income
	$n=68$ Asian/Pacific Islander				
	$n=15$ Other				
Maly et al., 2008	$n=99$ Latina	* $M=68.7$ years, $SD=8.5$	*Only 8% of sample had greater than stage 2	* $M=8.20$ months, $SD=2.7$	51.5% of Latinas < 20 K
	$n=66$ Black	No significant differences between ethnic groups	No significant differences between racial/ethnic groups		10.9% of Whites < 20 K
	$n=92$ non-Latina White				Latinas reported significantly lower income than non-Latina Whites
Yoon et al., 2008	$n=103$ Latina English speaker	* $n=416$ Age 50–59	*173 women in situ	* $M=223$ days after diagnosis	*288 women < 20 K
	$n=104$ Latina Spanish speaker	$n=198$ Age 60–64	487 women stage 1		244 women 20 K–39 K
	$n=112$ Black	$n=349$ Age 65–74	368 women stage 2		687 women 40 K+
	$n=834$ non-Latina White	$n=256$ Age 75–99	50 women stage 3		
	$n=66$ Other		19 women stage 4		
			122 women unknown stage		

* Data only for breast cancer patients belonging to all ethnic groups

[1] When time since diagnosis was not available time since surgery was provided

[2] Data for the study comes from two recruitment samples

[3] Study published in 2007 and no other information on time since diagnosis provided

[4] Mean values on education were reported for each recruitment sample

[5] Ashing Giwa et al., 2007, and Ashing Giwa et al., 2009 are the same data set and Lim et al., 2009 is from an overlapping dataset

[6] Spencer et al., 1999, Carver et al., 2003 and Petronis et al., 2003 are overlapping data sets

[7] Carver et al. (2005) and Carver et al. (2006) used the same data set

Table 2 Methodological data for studies included in the review

Author	Analyses of Data	Measures or Interview Topics	Results Summary
Ashing-Giwa et al., 2004	Qualitative	Fear and anxiety, body image, intimate relationships.	Latinas and Asian Americans discussed how their feelings about their body affected their QOL. Latinas discussed feeling embarrassed, sad, frustrated, ugly, and incomplete. Regarding the major theme of overall stress/effect of breast cancer, Blacks, Asians, and Latinas reported decrements in QOL whereas non-Latina Whites emphasized positive aspects. Latinas emphasized deleterious treatment side effects.
Ashing-Giwa et al., 2007	Quantitative Cross-sectional	FACT-G (all subscales) Rand/SF-36 (Role Limitation/Emotional Well-being)	Latinas were significantly lower on physical, social, emotional, and functional quality of life on FACT-G than non-Latina Whites, Blacks, and Asian Americans. After controlling for covariates, analysis on the FACT-G summary score indicated that ethnic differences were no longer significant. Latinas were significantly lower on SF-36 role limitation and emotional well-being compared to all other groups of women.
Ashing Giwa et al., 2009	Quantitative Cross-sectional	SF-36 (Physical and Mental)	Latina ethnicity was significantly related to poorer Mental Health on the SF-36; this disparity was no longer significant when job type and stress were entered into the model. No significant relationship between Latina ethnicity and physical health QOL.
Lim et al., 2008	Quantitative Cross-sectional	FACT-G (Emotional and Physical)	Emotional and Physical Well-being scores for Asian Americans were significantly higher than Latinas' scores.
Bowen et al., 2007	Quantitative Cross-sectional	SF-36 (Physical and Mental) Fear of Recurrence Scale Hormone-related symptoms Impact of breast cancer(Social/Emotional)	Adjusting for covariates, Black women reported significantly lower impact of cancer on cognitive/mood and incontinence subscales assessing hormone-related symptoms than Latinas and Latinas reported more fear of recurrence than Black women. In a similar set of analyses examining differences in SF-36 Mental and Physical Health summary scores, also adjusting for covariates, Black women evidenced significantly lower physical functioning scores, compared with Latinas, but higher mental health scores. Two additional models were conducted with non-Latina White entered as the referent group. After controlling for covariates, no significant differences between Latinas and non-Latina Whites emerged on physical health, but Latinas evidenced significantly poorer mental health on the SF-36. Latinas did not significantly differ from non-Latina Whites on the scale to assess the social/emotional impact of breast cancer.
Carver et al., 2003	Quantitative Cross-sectional	SIP (Social Activities, Recreation and Pastime Activities subscales) POMS (Fatigue subscale) *Emotional distress	Findings were similar to those of Spencer et al. (1999). Latinas reported more POMS fatigue than non-Latina Whites. Study 2 yielded no racial/ethnic differences in QOL on social disruption, fatigue, and distress.
Petronis et al., 2003	Quantitative Cross-sectional	Emotional distress (CES-D, 11 items selected from Andrews and Withey SQOL 10 items selected from Carver et al., 1993) SIP (Social Activities, Recreation and Pastime Activities subscales) PAIS (Sexual subscale) PCBC	In models controlling for covariates, Latinas indicated significantly greater distress and more social disruption than non-Latinas, but groups did not differ on the PAIS.
Spencer et al., 1999	Quantitative Cross-sectional	Emotional disruption (CES-D, POMS, 11 items selected from Andrews and Withey SQOL) SIP (Social Activities and Recreational Pastimes subscales) PAIS (Sexual relations subscale)	After controlling for covariates, Latinas reported poorer adjustment than non-Latina White and Black women in all domains of QOL.
Carver et al., 2005	Quantitative Longitudinal	CES-D ABS/POMS SIP (Social Activities, Recreation and Pastime Activities subscales) 10 questions from Andrews and Withey SQOL (1976)	Latinas had higher scores on the CES-D and SIP than non-Latinas (i.e., non-Latina Whites and Blacks). No significant differences between ethnic groups on distress (ABS/POMS) or self-rated QOL. Initial values on the two other dependent variables (SIP, CES-D) were entered simultaneously with demographic /medical factors. Latina ethnic status was not a significant predictor of change in depressive symptoms and social disruption.
Carver et al., 2006	Quantitative Cross-sectional	QLACS	Latinas reported significant elevations in negative feelings, social avoidance, distress about family's future, and distress about recurrence compared to non-Latinas, even when covariates were controlled. Groups did not differ on cognitive impairment and fatigue subscales.

Table 2 (continued)

Author	Analyses of Data	Measures or Interview Topics	Results Summary
Clauser et al., 2008	Quantitative Cross-sectional	SF-36 (Mental and Physical)	Asians evidenced the highest physical QOL, followed by non-Latina Whites, Latinas, and Blacks. Asians evidenced the highest mental QOL, followed by non-Latina Whites, Blacks, and Hispanics.
Culver et al., 2002	Quantitative Longitudinal	CES-D *Distress	After controlling for covariates, Latinas did not significantly differ on distress from non-Latinas across time points. However, between 6 and 12 months after surgery, Latinas evidenced a significant increase in distress compared to non-Latina Whites. With covariates controlled, Black women reported significantly lower depressive symptoms than Latinas.
Eversley et al., 2005	Quantitative Cross-sectional	CES-D PFS BPI Lymphedema-related Swelling	Latinas had significantly higher depressive symptoms on the CES-D and fatigue on the Piper Fatigue Scale (PFS) when compared to Black and non-Latina White women. Latinas also evidenced higher rates of pain on the Brief Pain Inventory (BPI) and lymphedema-related swelling (measured by a single item) when compared to non-Latina White women. Latina ethnic status remained a correlate of total number of post-treatment symptoms even when covariates were controlled.
Fatone et al., 2007	Qualitative	Physical, Social/Functional, Psychological, Sexual, Cognitive, Existential	The primary domain of concern for the Latinas was psychological, whereas the primary domain of concern for Black women was physical. Main psychological themes for Latinas were sadness, crying, anxiety, and irritability. In descending order of importance, the remaining areas of concern for Latinas were physical, social/functional, spiritual/existential, cognitive, and sexual.
Fobair et al., 2005	Quantitative Cross-sectional	MOS (Sexual Problems)	After controlling for covariates, multiple regression analysis indicated significantly fewer sexual problems among Latinas compared to non-Latina White women.
Friedman et al., 2006	Quantitative Cross-sectional	FACT-G (Emotional, Functional, Social/Family subscales) IES (Intrusions) POMS-SF (all 6 subscales)	No significant differences for race/ethnicity on QOL. Latinas, non-Latina Whites, and Blacks did not differ significantly on any of the measures.
Fu et al., 2009	Quantitative Cross-sectional	MSAS-SF (Depression, Hormone-related Symptoms, Pain-related Symptoms, Chemotherapy-related Symptoms)	Latinas had more chemotherapy- and pain-related symptoms on the Memorial Symptoms Assessment Scale Short Form than non-Latina Whites when controlling for covariates. No significant ethnic differences emerged on the other areas of QOL.
Giedzinska et al., 2004	Quantitative Cross-sectional	SF-36 (all subscales), CARES (Sexual Dysfunction, Sexual Interest, Body Image subscales) BCPT CES-D DAS	Black women reported significantly higher SF-36 Emotional Well-Being than Latinas, even after covariates were controlled for. No significant differences on the other SF-36 scales were reported. Mean differences in sexual dysfunction were not significant; however, when covariates were controlled, Black women evidenced less sexual dysfunction than Latinas. Black women reported higher Mental Health on the SF-36 than Latinas, even after controlling for covariates. Latinas scored higher than any other ethnic group on symptoms related to breast cancer treatment (BCPT summary score). After controlling for covariates, Latinas did not significantly differ on the BCPT from non-Latina Whites but remained higher than Black and Asian American women. No significant differences for Latinas emerged on the CES-D and Revised Dyadic Adjustment Scale.
Janz et al., 2009	Quantitative Cross-sectional	FACT-B (Physical, Emotional, Functional, Social/Family, Breast Concerns)	Low-acculturated and high-acculturated Latinas reported significantly lower physical well-being and more breast-specific concerns than non-Latina White women. Low-acculturated Latinas also reported significantly lower scores on functional well-being, emotional well-being, and social well-being compared to non-Latina Whites, who did not differ from high-acculturated Latinas. In the final model which included all covariates, Latinas low in acculturation reported significantly lower functional well-being and emotional well-being than non-Latina Whites, and more breast-specific concerns than non-Latina Whites, but did not significantly differ on physical and social well-being. Low-acculturated Latinas reported lower levels of functional and emotional well-being than Latinas high in acculturation and Black women.

Table 2 (continued)

Author	Analyses of Data	Measures or Interview Topics	Results Summary
Maly et al., 2010	Quantitative Cross-sectional	*Self-reported symptoms and self-reported symptom resolution (nausea/vomiting, pain, depressive symptoms)	In analyses controlling for covariates, both less-acculturated and more-acculturated Latinas were significantly more likely to report having experienced nausea than non-Latina Whites. Less acculturated Latinas were significantly less likely to report having experienced pain than non-Latina White women. Latinas did not significantly differ from non-Latina Whites on depressive symptoms. Less-acculturated Latinas were significantly less likely to perceive depressive symptom resolution than non-Latina White women in the unadjusted and adjusted models. Latinas were less likely that non-Latina Whites to perceive pain resolution; however, no differences emerged on the resolution of nausea or pain in the adjusted models.
Maly et al., 2008	Quantitative Cross-sectional	SF-36 (all subscales) CES-D STAI Breast Cancer Specific Anxiety	Latinas reported poorer QOL compared to non-Latina Whites. With control variables entered in the structural equation model, non-Latina ethnic status was directly associated with better QOL.
Yoon et al., 2008	Quantitative Cross-sectional	* Physical symptoms (nausea/vomiting, difficulty sleeping, arm problems, vaginal dryness, hot flashes)	After controlling for covariates, Spanish-speaking Latinas were approximately 60% less likely to report having any severe cancer-related symptoms than non-Latina White women, who did not differ from English-speaking Latinas. English-speaking Latinas were significantly less likely to report hot flashes and that Spanish-speaking Latinas were significantly less likely to report difficulty sleeping than non-Latina Whites.

Ashing Giwa et al., 2007, and Ashing Giwa et al., 2009 are the same data set and Lim et al., 2009 is an overlapping dataset. Carver et al. (2005) and Carver et al. (2006) used the same data set. Spencer et al., 1999, Carver et al, 2003 and Petronis et al., 2003 are overlapping data sets. Scales with reported alphas ranged from .70 to .96

*Author constructed scale. No other information on scale provided

⁺ QOL only measured at 1 time point

CES-D Center for Epidemiologic Studies Depression; SF-36 Rand Short-Form 36; CARES Cancer Rehabilitation Evaluation System; BCPT Breast Cancer Prevention Trial Symptom Checklist; POMS Profile of Mood States; MSAS-SF Memorial Symptoms Assessment Scale – Short Form; QLACS Quality of Life in Adult Cancer Survivors; FACT Functional Assessment of Cancer Therapy. FACT-G (general cancer), and FACT-B (breast cancer specific) are the same measure except FACT-B contains an additional measure of breast cancer specific QOL; IES Impact of Event Scale; STAI-S State-Trait Anxiety Inventory; ABS Affects Balance Scale; SIP Sickness Impact Profile; SQOL Self-Rated Quality of Life; PCBC Profile of Concerns about Breast Cancer; QOL Quality of Life; PAIS Psychological Adjustment to Illness Scale; PFS Piper Fatigue Scale; BCPC Breast Cancer Problems Checklist; BPI Brief Pain Inventory; DAS Dyadic Adjustment Scale

studies, two longitudinal quantitative reports, and 18 cross-sectional quantitative reports met criteria for inclusion. Of the 20 quantitative reports, eight contained identical or over-lapping samples. Most studies were conducted in large urban areas (Miami, Los Angeles, New York). Sample sizes for Latinas in quantitative studies ranged from 16 to 492 women (with the exception of Clauser et al. [15]). Most women had early-stage disease. Breast cancer diagnosis duration was variable, with some relatively recently diagnosed samples (<1 year) and some samples of longer-term survivors (>2 years). Of the few studies that reported statistical tests comparing race/ethnicity by demographic and cancer-related variables, results showed that Latinas reported lower income and were more likely to be younger than other groups of women. Latinas were also more likely to be diagnosed at later stages compared to non-Latina Whites.

Results are organized by QOL domain. We reviewed findings by each domain and most-commonly employed measures within domains. In the event that two separate measures were used to assess a QOL domain, we report findings for each measure. We also provide findings by measure subscale if reported in the study's results section. Not all studies in the review disentangled domains of QOL but rather reported total scores on measures of QOL that included some combination of the four domains assessed in this review (e.g., mental, physical, social, sexual). In these cases, the relationships between racial/ethnic status and distinct domains of one of the four QOL domains could not be determined. Therefore, for purposes of this review, an additional section labeled Combined QOL Domains was included. Finally, only QOL findings that pertain to Latinas are reported. In other words, QOL comparisons between African American, Asian American, and non-Latina White women are not reported.

Findings related to mental health

Findings related to mental health are divided into two sections: 1) general emotional functioning which includes mental health QOL, anxiety, distress, fear of recurrence, or

a combination of these variables, and 2) depressive symptoms. Despite the variations in measurement, a consistent finding among quantitative studies is that Latinas generally report poorer emotional functioning than non-Latinas. The most commonly used measures of general emotional functioning were the Rand Short-Form 36 (SF-36) and Functional Assessment of Cancer Therapy (FACT). In 12 studies, Latinas demonstrated significantly poorer QOL than non-Latina Whites, Blacks, and/or Asian Americans on at least one measure of emotional functioning compared to non-Latina Whites, Blacks, and/or Asian Americans [15–26]. In general, Latinas reported poorer mental health on the SF-36 and the FACT. They also reported greater fear of recurrence and distress. Eight of the 12 studies assessing mental health controlled for relevant covariates and continued to report significantly poorer QOL among Latinas compared to other women. Four studies that assessed emotional functioning reported no significant differences between groups on at least one measure of general emotional functioning among Latinas, non-Latina Whites, and/or Blacks [16, 22, 25, 27]. Two of these four studies present both positive and negative findings for Latinas. Janz et al. [22] reported that both low-acculturated and high-acculturated Latinas evidenced poorer QOL compared to non-Latina Whites. Their findings also revealed that high-acculturated Latinas did not significantly differ from non-Latina Whites on some QOL measures and that disparities in QOL were stronger among low-acculturated Latinas than high-acculturated Latinas [22]. Although Culver et al. [16] did not find significant ethnic group differences in distress, they did report a significant increase in distress over time in Latinas compared to non-Latina Whites. Finally, no study reported that Latinas evidenced better emotional functioning than women of other ethnic groups.

The most commonly used measure of depressive symptoms was the Center for Epidemiologic Studies Depression scale (CES-D). Four quantitative studies [16, 28–30] reported significantly greater levels of depressive symptoms or less depressive symptom resolution among Latinas than non-Latina Whites and/or Blacks on at least one measure. Three of these studies continued to report significant differences in depressive symptomatology despite controlling for covariates. Three studies reported no significant differences between groups on depressive symptoms compared to non-Latina Whites and/or Blacks [17, 30, 31] on at least one measure. Of note, Maly et al. [30] reported that Latinas did not significantly differ from non-Latina Whites on depressive symptoms, but less-acculturated Latinas were less likely to report depressive symptom resolution compared to non-Latina Whites. No study reported that Latinas evidenced significantly lower depressive symptomatology than other groups of women. Taken together, these findings suggest that Latina breast cancer patients report greater depressive symptoms and poorer mental health than non-Latinas.

Findings related to physical health

Although less consistent than the findings pertaining to mental health, the majority of studies suggested that Latinas evidenced worse QOL related to physical health. The most commonly employed measures of physical health were the SF-36 and FACT. Other measures included treatment-related symptoms such as fatigue pain, nausea, and lymphedema. Ten studies reported that Latinas evidenced poorer QOL compared to non-Latina Whites, Blacks, and/or Asian Americans on at least one measure of physical health [15, 17, 18, 20, 22, 23, 25, 29–31]. In general, Latinas reported poorer general physical QOL on the SF-36 and FACT and more cancer treatment-related symptoms such as fatigue, pain, and lymphedema swelling. Of these 10 studies, six reported significantly poorer QOL among Latinas than other groups of women even after controlling for relevant covariates. Five studies reported no significant differences between Latinas and non-Latina Whites, Blacks, and/or Asian Americans on at least one measure of physical health [17, 19, 21, 25, 31], and three studies reported that Latinas evidenced superior QOL on at least one measure of physical health compared to non-Latina Whites and Blacks [20, 30, 32]. Among the studies reporting superior physical QOL, findings indicated that Latinas evidenced better physical functioning on the SF-36, less pain, fewer hot flashes, and less difficulty sleeping.

Findings related to social functioning

Seven studies assessed social functioning. Commonly used measures of social functioning included the SF-36, FACT, and Sickness Impact Profile. Six studies reported that Latinas demonstrated poorer social functioning than non-Latina Whites, Blacks, and/or Asian Americans [18, 21, 22, 24, 26, 28]. Of these six studies, three reported significantly poorer QOL among Latinas after controlling for relevant covariates. Five reported no significant differences between Latinas and non-Latina Whites and Black women [17, 20, 22, 25, 27]. Of note, Janz et al. [22] reported that low-acculturated Latinas but not high-acculturated Latinas reported significantly lower scores on social well-being. No study reported better social functioning among Latinas compared to other groups of women. The pattern of findings suggests that Latinas are more likely to report poor social functioning compared to non-Latinas.

Findings related to sexual health

Four studies reported data pertaining to sexual health. Two of the four studies reported greater sexual dysfunction

among Latinas compared to non-Latina Whites, Blacks, and Asian Americans [17, 24]. Both of these studies reported significant differences after controlling for relevant covariates. One study reported fewer sexual problems among Latinas [33] compared to non-Latina Whites, and one study reported no differences in sexual disruption between Latina and non-Latina Whites and Black women [26]. Given the dearth of studies assessing sexual health and lack of consistent findings, it is difficult draw to any conclusion for this QOL domain.

Findings related to combined QOL domains

One study combined several domains of QOL. Using a multiethnic sample of non-Latina White, Latina, and Black breast cancer patients, Maly et al. [34] employed a structural equation model to examine predictors of QOL. Quality of life was a latent variable consisting of the Medical Outcomes Study 36-Item Short Form (SF-36), the Center for Epidemiologic Studies Depression Scale (CES-D), the State-Trait Anxiety Inventory-State (STAI-S), and a scale on breast cancer emotional health. Findings indicate that Latinas reported poorer QOL compared to non-Latina Whites. In a structural equation model with control variables included, non-Latina ethnic status was directly associated with better QOL [34]. Maly et al. [34] primarily assessed mental health, and the study's results are consistent with the Findings Related to Mental Health section, in which the majority of studies reported significantly poorer mental health among Latinas compared to other ethnic groups.

Qualitative studies

Fatone et al. [35] conducted semi-structured interviews with a sample of Latina and Black women. The primary domain of concern for the Latinas was psychological, whereas the primary domain of concern for Black women was physical. Main psychological themes for Latinas were sadness, crying, anxiety, and irritability. In descending order of importance, the remaining areas of concern for Latinas were physical, social/functional, spiritual/existential, cognitive, and sexual.

Another qualitative study sought to understand the breast cancer experiences of Black, Asian American, non-Latina White, and Latina breast cancer survivors [36]. Participants were interviewed in a focus group format. Two themes related to QOL were feelings about body and overall stress/ effect of breast cancer. Latinas and Asian Americans discussed how the impact of their feelings about their body affected their QOL. Latinas discussed feeling embarrassed, sad, frustrated, ugly, and incomplete. Regarding the major theme of overall stress/effect of breast cancer, Blacks, Asians, and Latinas reported decrements in QOL whereas

non-Latina Whites emphasized positive aspects. Latinas emphasized deleterious treatment side effects.

Discussion

Summary of findings

Twenty-two studies met criteria for this review of QOL in Latinas with breast cancer compared to other racial/ethnic groups, of which eight used identical or overlapping samples [18, 19, 21, 23–26, 28]. Synthesizing the findings is complicated by marked variability in the available studies' sample sizes, operationalizations of QOL, approach to statistical control of demographic and other variables, and cultural diversity within the Latina population.

Overall, findings suggest several important conclusions: 1) Latinas appear to be at risk for poor QOL following breast cancer diagnosis relative to non-Latinas; 2) relatively little is known about the mechanisms that explain these health-related discrepancies; and 3) research is needed to determine whether and how psychosocial interventions will improve QOL for this group of women. We begin by first providing a summary in which the results are organized according to study findings: studies that reported no significant racial/ethnic differences pertaining to Latinas on all QOL measures, studies in which Latinas consistently evidence higher QOL, studies in which Latinas consistently evidence lower QOL, and studies that yielded mixed findings on the relationship between race/ethnicity and QOL. The remainder of the discussion focuses on interpretations of study findings, explanatory variables, and future directions.

Only one study reported no significant differences between Latinas and other women on all measures of QOL [27]. Of note, this study had a very small sample of non-Latina Whites. One study reported that Latinas evidenced higher QOL than other groups of women on all measures of QOL [33]. Six studies found that Latinas reported poorer QOL than other groups of women on all measures [15, 18, 23, 24, 29, 34]. However, after controlling for relevant covariates Ashing-Giwa et al. reported that some ethnic differences between Latinas and other ethnic groups lost statistical significance [18]. The majority of studies (12) yielded mixed findings [16, 17, 19–22, 25, 26, 28, 30–32] in which Latinas generally demonstrated significantly worse QOL on most, but not all, measures. Carver et al. [25] reported findings from two separate studies within one manuscript. Findings from Study 1 revealed racial/ethnic disparities in QOL whereas findings from Study 2 revealed no significant differences in QOL by race/ethnicity. Of significance, the sample in Study 2 contained only 16 Latinas.

The pattern of results indicates that Latinas diagnosed with breast cancer may be at risk for poorer QOL than non-Latinas. Specifically, Latinas are more likely to report poor mental, physical health, and social disruption than do non-Latinas. Measurement of sexual health was too limited to draw any conclusions. Findings from two qualitative studies emphasized the psychological impact of breast cancer (e.g., sadness, embarrassment, frustration), treatment-related symptoms, decrements in physical functioning, and the impact of cancer on social well-being, which are consistent with findings from quantitative studies. Qualitative studies add to the literature by providing a nuanced understanding of the breast cancer experience. For example, Ashing-Giwa et al. [36] underscored the importance of attending to the impact of Latinas' embarrassment regarding changes to their bodies and the subsequent impact on relationships, which was not fully captured by quantitative studies.

Explanatory mechanisms

Stress-based theories of health posit that minority ethnic status may confer risk for poor health outcomes as a result of fewer economic and social resources, race-based discrimination, and additional sources of stress exposure caused in part by social disadvantage [37–39]. Numerous factors can account for the obtained racial/ethnic differences in QOL outcomes. Socio-demographic factors such as income and education can affect QOL and vary by racial/ethnic status, with Latinas usually of lower SES than their White counterparts [27, 34]. Treatment-related factors have also been associated with QOL outcomes. Women diagnosed with more advanced stages of cancer have reported lower QOL than women diagnosed at earlier stages [40]. Stage of diagnosis may be especially relevant for Latinas as they are likely to be diagnosed with more advanced stages of cancer [1].

Studies included in the review that examined differences in socio-demographic and treatment-related factors indicated that Latinas generally reported lower SES and were diagnosed at a later stage than other groups of women. Even when socio-demographic and/or treatment-related factors were controlled statistically, however, the majority of studies still demonstrated lower QOL among Latinas on at least one indicator, and in several cases the findings did not change [24, 25, 29]. Based on findings from the reviewed studies, we suggest that socio-demographic and treatment-related variables may account for some of the disparities in QOL, but they are not likely responsible for all of the observed racial/ethnic differences and therefore additional explanatory factors must be investigated.

After a breast cancer diagnosis, Latinas may face additional stressors that are culturally-relevant. Only four studies examined language use or level of acculturation and QOL among Latinas. Findings from these four studies suggest that low-acculturated Latinas may be at risk for poor QOL, specifically mental health, relative to high-acculturated Latinas and non-Latina Whites [22, 23, 30, 32]. Janz et al. [22] compared low-acculturated Latinas to high-acculturated Latinas and non-Latina Whites and found that that low-acculturated Latinas evidenced the poorest QOL. Low-acculturated Latinas reported poorer emotional, physical, and functional well-being on the FACT and more breast-specific concerns relative to non-Latina Whites. Low-acculturated Latinas also reported lower levels of functional and emotional well-being relative to high-acculturated Latinas. Maly et al. [30] compared low-acculturated Latinas to non-Latina Whites and reported mixed findings regarding level of acculturation and QOL. Findings indicated that less-acculturated Latinas were more likely to experience nausea than non-Latina Whites and less likely to experience pain compared to non-Latina Whites. Less-acculturated Latinas were also less likely to perceive depressive symptom resolution and pain resolution compared to non-Latina Whites [30]. Of the studies assessing level of acculturation, one indicated that Spanish-speaking Latinas were consistently less likely to report the presence of cancer-related symptoms compared to their White counterparts [32]. Although not directly tested, Lim et al. revealed that greater acculturation was indirectly related to better mental health among Latinas diagnosed with breast cancer [23].

The finding that low-acculturated Latinas generally reported poorer mental health contrasts with research in the general Latino population which suggests that longer residence or birth in the United States, versus foreign nativity, are associated with poorer mental health [41, 42]. In the context of breast cancer, however, low acculturation might be accompanied by lower levels of breast cancer knowledge, greater misconceptions about breast cancer, fatalistic beliefs about cancer, and less information on health resources [6, 7, 43–45]. Due to a potential lack of familiarity with the U.S. medical system and language barriers, Latinas, especially recently immigrated Latinas, may have difficulty navigating the medical system and interacting with health care providers. Studies in the review emphasize the importance of patient-physician relationships among Latinas. A better quality patient-physician relationship, for example, was associated with better QOL among Latinas [18, 23]. Thus, the racial/ethnic disparities in QOL seen in the current review may be attributed in part to sociodemographic and cancer-related factors, but also likely influenced by barriers related to language and differences in culturally-relevant beliefs and expectations which may shape various aspects of the cancer experience, from coping with the news of diagnosis to interacting with physicians

and adjusting to survivorship. More research is needed to shed light on the association between acculturation and QOL among Latina cancer patients and to establish moderating factors in this relationship.

Future directions

Areas for research growth

Studies included in this review were limited in several ways. Few studies assessed sexual health outcomes. Only a limited number of studies included women with metastatic disease, and findings cannot be generalized to this under-studied group. Eight of the 20 quantitative studies reported on identical or overlapping samples, which may have inflated patterns of consistent findings across studies. As studies were primarily conducted in large urban areas, generalization to non-urban Latina populations and to specific sub-populations of Latinas (e.g., Cuban American, Mexican American) also requires study. There is limited, existing evidence to suggest that women living in rural areas are at increased risk for poorer QOL relative to women in urban areas [46]. More research is needed to examine the QOL among Latinas living in rural areas, especially in light of projections that Latinos will become the largest ethnic minority rural group in the United States [47]. No study assessed major depressive disorder. As future studies continue to assess the QOL of Latina patients, it will be important to distinguish between symptoms and psychological disorders. Latinos in the general population report more depressive symptoms compared to non-Latino Whites [48]. However, more research is needed to determine whether Latina breast cancer patients are more likely to meet diagnostic criteria compared to non-Latina Whites.

The mechanisms through which ethnicity might influence adjustment have not been comprehensively explored. Ethnicity is an atheoretical construct that in itself provides little insight into psychological and physical phenomena, but rather may best be understood in the context of socio-cultural factors that can inform interventions targeted at improving QOL for Latinas [49]. Latinas' reports of sadness regarding treatment-related changes to their bodies and feelings of incompleteness may constitute one pathway for their compromised QOL [36]. Therefore, Latinas might be more likely to benefit from reconstructive surgery or from psychosocial interventions to enhance body integrity than non-Latina whites, but more studies are needed to elaborate Latinas' preferences for reconstructive treatment. As another example, a construct of interest in the psycho-oncology literature of particular relevance to the Latino population is spirituality [50]. Latinas diagnosed with breast cancer report more religious coping than non-Latina

White women [16, 51] and religious and spiritual beliefs have been associated with higher QOL among Latinas [52].

Research design

More longitudinal studies are required to assess change in QOL over time, which would inform healthcare providers of periods during which Latinas might benefit from interventions. Although some studies in the current review were longitudinal, only two studies in this review assessed QOL across time by race/ethnicity, one of which revealed an increase in distress among Latinas, when compared to non-Latina White and Black women, from 6 to 12 months after surgery [16]. Longitudinal studies also can provide valuable information on the relevance of different indicators of QOL throughout the cancer trajectory. For example, distress may be especially prevalent within the first year after diagnosis for Latinas, whereas fear of cancer recurrence may be more pertinent later in cancer survivorship. Not all studies in the review reported average time since diagnosis, and those that did focused on women within the first few years of diagnosis. With the exception of two studies [16, 28], no study investigated group differences in change in QOL across time, and few studies assessed QOL within the first months following a diagnosis. Additional research on the trajectories of QOL following cancer diagnosis and treatment may provide valuable information as to when Latinas are at greatest risk for poor QOL and may benefit from interventions.

Measurement

It is important to consider the appropriateness of the measurement tools used in the assessment of QOL among minorities. Measurement tools that have not been validated among Latino populations may produce findings that are difficult to interpret. For example, Yoon et al. [32] used author-constructed questions to assess QOL and reported that only Spanish-speaking Latinas (versus English-speaking Latinas) were less likely to report any severe physical symptoms compared to non-Latina Whites [32]. However, 20% of Spanish-speaking respondents answered that they did not know or declined to answer the question for at least one of the five symptoms compared to 5% of Whites and 6% of Blacks, suggesting that Spanish-speaking Latinas may be less familiar with labeling symptoms or may be more uncomfortable endorsing certain symptoms when being interviewed [32]. More attention to matching the best approach for measuring QOL among Latinas of varying level of acculturation, education, and language proficiency is required.

The most commonly employed measures used in the 20 quantitative reports have been validated in Latino popula-

tions (e.g., CES-D, SF-36, FACT). Although the CES-D, FACT, and SF-36 have similar psychometric properties for non-Latino Whites and Latinos [53–55], not all research suggests that established measures of QOL are valid in Latino populations, as differences in the factor structure of the CES-D between Latinos and Whites have been observed [56]. More research is needed to attend to cross-cultural validity of measures. Latino stigma surrounding mental health and additional life stressors experienced by ethnic minorities, for example, may lead to greater reporting of depressive symptomatology through somatic expression than through affective symptomatology [57, 58]. Among Latina cancer patients, greater somatic complaints may be mistakenly viewed as sequelae of the cancer treatment (e.g., radiation-induced fatigue) rather than as a reflection of depression. Research is needed to elucidate the presentation of depressive symptoms among Latinas with breast cancer.

Effect sizes

Although most studies noted that Latinas report worse QOL than non-Latinas, these findings do not provide an indication of the magnitude of the effects. Eleven of the 20 quantitative studies provided an effect size (i.e., correlation coefficient, standardized beta, adjusted or unadjusted odds ratio [OR]) which varied across quantitative studies. We discuss effect sizes for one study which provided odds ratios comparing Latinas to non-Latina Whites. Maly et al. [30] reported that, relative to non-Latina Whites, both less and more acculturated Latinas were significantly more likely to report nausea (adjusted OR=1.79 and 2.09), that less acculturated Latinas were less likely to report pain (adjusted OR=.62), and that less acculturated Latinas were less likely to perceive depressive symptom resolution (adjusted OR=.35). As the literature expands, quantitative approaches such as meta-analysis will be warranted to determine effect sizes across domains of QOL.

Clinical implications

A general conclusion we draw from this review is that Latinas are likely to benefit from interventions that seek to improve QOL, and studies are needed to determine the efficacy of culturally-tailored interventions which seek to reduce distress and improve QOL for Latinas. Moreover, there is evidence to indicate that Latinas, specifically Spanish-speaking Latinas, would like to receive cancer survivorship-related information about impact on mental health, relationships, and sexual functioning [59]. To date, stress management interventions for women with breast cancer have proven to be efficacious among samples of predominantly non-Latina White women [60, 61]. Additional research is needed to determine whether existing interventions for breast cancer patients are equally efficacious among Latinas or whether modifications to existing interventions would benefit Latinas as there are some findings in the literature to suggest that Spanish-speaking Latinas prefer to work with Spanish-speaking Latino health-care providers and would benefit from community-based interventions that consider Latino traditions and beliefs [62, 63]. In addition, findings from quantitative and qualitative studies suggest that low-acculturated Latinas may benefit from interventions related to enhancing patient-physician communication [18, 23] and support groups which provide women the opportunity to process the effects of treatment on body image and relationships [36]. Research is warranted to develop efficacious, culturally-tailored psychosocial interventions for Latina breast cancer patients to reduce cancer-related distress and enhance well-being.

Conclusions

To the best of our knowledge, this is the first systematic review comparing QOL between Latina and non-Latinas with breast cancer. Mounting evidence suggests that Latinas might be at risk for poor QOL outcomes following a breast cancer diagnosis, especially when compared to non-Latina White women. Enhancing the QOL of Latina breast cancer patients requires a multifaceted approach including efforts aimed at improving cancer screening rates to reduce disparities in stage of diagnosis and in treatment, as well as interventions aimed at reducing life disruption and improving well-being. Continuing research in this area will be crucial to this rapidly growing population and the health-care providers with whom they interact.

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