



HEALTH RELATED QUALITY OF LIFE AMONG AFRICAN AMERICAN FEMALE BREAST CANCER SURVIVORS AND SURVIVORS OF OTHER CANCERS

Selina A. Smith, PhD, MDiv^{1,3}, Ernest Alema-Mensah, PhD, MDiv^{2,3}, Benjamin Ansa, MD, MSCR,^{1,2} Francesca Darius, MPH¹, Meshelle R. Claridy, MPH^{1,2}

¹Georgia Regents University Institute of Public Health, ²Morehouse School of Medicine Cancer Research Program, ³Morehouse School of Medicine Department of Community Health and Preventive Medicine



ABSTRACT

Purpose: The purpose of this study was to compare health-related quality of life (HR-QoL) of African American female breast cancer survivors and survivors of other cancers to African American females without a history of cancer.

Methods: African American female breast cancer survivors (n=69), survivors of other cancers (n=82), and those without a history of cancer (n=1,746) were identified from the 2010 National Health Interview Survey. The Patient Reported Outcomes Measurement Information Systems Global Health Scale (PROMIS) was used to assess HR-QoL.

Results: The overall effect in each cancer group was statistically significant for some HR-QoL outcome variables. Poor satisfaction with one's ability to carry out social activities and relationships was reported by 18% of breast cancer survivors and 27% of survivors of other cancers, respectively, compared to 15% of those without cancer (p=0.0064). Difficulty carrying out everyday physical activity was reported by 17% of breast cancer survivors and 35% of survivors of other cancers, compared to 13% of those without cancer (p<.0001). Also, 36% of breast cancer survivors and 54% of survivors of other cancers reported that they have experienced severe pain in the past seven days when compared to 38% of those without cancer (p=0.0113).

Conclusions: This study supports a HR-QoL disparity between African American female cancer survivors and African American females without a history of cancer. These results, relative to cancer survivorship disparities, may be used to assist with national efforts to enhance HRQOL for this population.

Research Support: National Cancer Institute (1R01CA166785 and 5U54CA118638) and National Institute of Minority Health & Health Disparities (1P20MD006881-01)

INTRODUCTION

There are currently more than 2.8 million breast cancer survivors (BCS) in the United States (US). In 2014, an estimated 232,670 new cases of invasive breast cancer will be diagnosed among women as well as an estimated 62,570 additional cases of in situ breast cancer. In addition, BCS are the largest group of female cancer survivors worldwide.

Although the number of BCS is increasing as a result of continual improvements in diagnostic screening and anticancer treatments, there are still survival disparities by race/ethnicity. African American women have the lowest breast cancer survival rate of any racial/ethnic group with a death rate 41% higher than that of white women. For survivors of breast cancer, problems include higher co-morbidity and mortality related to some breast cancer regimens and functional impairment. This disparity may also extend to nonclinical outcomes, including health-related quality of life (HR-QoL).

There has been considerable interest in the HR-QoL of BCS in recent years. HR-QoL is a multidimensional population health outcome that supplements more traditional measures of mortality and morbidity and is useful in providing broad summary measures of perceived health. HR-QoL constructs include measures of overall health, physical health, mental health, and social functioning.

When compared to their white counterparts, consistent patterns in HR-QoL deficits have been noted among African-American women with and without breast cancer. As a result, it is important to examine the impact of physical, social and psychological factors on health outcomes in greater detail. The public health community has become more focused on understanding how to improve HR-QoL among individuals with multiple chronic conditions and disabilities.

METHODS

This study analyzed data from the 2010 NHIS to assess HR-QoL in African American females with breast cancer, other cancers, and without cancer. Participants included in this study were adult African American females, 35 years of age and older. They were categorized by: those who were ever told they had breast cancer, those who were ever told they had any other cancer besides breast cancer, and those who were never told they had cancer. Data was drawn from the Person, Sample Adult, and Cancer Control Supplement files (Sample Adult Cancer).

RESULTS

Table 1.
Demographics by Cancer Status

Variables	Breast Cancer (n=69) n(%)	Other Cancers (n=82) n(%)	Without Cancer (n=1746) n(%)	p-value
Age				<.0001
35 -49	11 (15.94)	20 (24.39)	702 (40.21)	
50+	58 (84.06)	62 (75.61)	1044 (59.79)	
Marital Status				<.0001
Currently Married	14 (20.29)	13 (15.85)	425 (24.34)	
Separated, Divorced, or Widowed	47 (68.12)	53 (64.63)	812 (46.51)	
Never Married or Unmarried	8 (11.59)	16 (19.51)	509 (29.15)	
Education				0.6872
Less than High School Diploma	19 (28.36)	18 (22.50)	398 (22.97)	
High school Graduate	34 (50.75)	49 (61.25)	1034 (59.67)	
College Graduate	14 (20.90)	13 (16.25)	301 (17.37)	

Table 2.
Descriptive Statistics for PROMIS Mental Health & Physical Health Variables by Cancer Status

Variables	Breast Cancer (n=69) n(%)	Other Cancers (n=82) n(%)	Without Cancer (n=1746) n(%)	p-value
Quality of Life				0.3528
Excellent-Good	49 (85.86)	58 (83.72)	1310 (84.81)	
Fair-Poor	12 (14.14)	15 (16.28)	239 (15.19)	
Mental Health				0.1674
Excellent-Good	54 (92.59)	57 (79.92)	1325 (86.05)	
Fair, Poor	7 (7.41)	16 (20.08)	225 (13.95)	
Social Activities and Relationships				0.0064
Excellent-Good	50 (81.93)	52 (73.47)	1314 (85.00)	
Fair-Poor	11 (18.07)	21 (26.53)	233 (15.00)	
Emotional Problems				0.0871
Never-Sometimes	58 (97.44)	62 (84.39)	1414 (90.44)	
Often-Always	3 (2.56)	11 (15.61)	132 (9.56)	
Physical Health				0.0514
Excellent-Good	43 (77.46)	45 (61.94)	1150 (75.28)	
Fair-Poor	18 (22.54)	28 (38.06)	400 (24.72)	
Carryout physical activity				<.0001
Excellent-Good	49 (83.43)	49 (64.64)	1327 (86.68)	
Fair-Poor	12 (16.57)	24 (35.36)	221 (13.32)	
Pain				0.0113
No pain-Moderate Pain	45 (63.96)	43 (45.71)	1171 (61.83)	
Severe Pain -Worst Pain	16 (36.04)	29 (54.29)	373 (38.17)	
Fatigue				0.1356
None-Moderate	56 (95.07)	62 (82.98)	1415 (91.04)	
Severe-Very Severe	5 (4.93)	11 (17.02)	129 (8.96)	

RESULTS

Table 3.
PROMIS Items Logistic Regression Model

Name of Item	Cancer Group * Adjusted	Odds Ratio	Confidence Interval	p-value
Emotional Problems	African Americans without cancer	1.00	Referent	Referent
	African Americans with other cancer	2.18	1.10-4.31	0.0251
	African Americans with breast cancer	0.67	0.21-2.20	0.5128
Poor Mental Health	African Americans without cancer	1.00	Referent	Referent
	African Americans with other cancer	1.82	1.01-3.30	0.0473
	African American breast cancer	0.79	0.35-1.80	0.5811
Poor Quality of Life	African Americans without cancer	1.00	Referent	Referent
	African Americans with other cancer	1.47	0.80-2.68	0.2117
	African Americans with breast cancer	1.34	0.69-2.62	0.3871
Low Satisfaction with Social Activities and Relationships	African Americans without cancer	1.00	Referent	Referent
	African Americans with any cancer	2.30	1.34-3.93	0.0025
	African Americans with breast cancer	1.25	0.63-2.47	0.5245
Severe Fatigue	African Americans without cancer	1.00	Referent	Referent
	African Americans with other cancer	1.84	0.91-3.71	0.0892
	African Americans with breast cancer	1.08	0.42-2.77	0.8733
Worst Pain	African Americans without cancer	1.00	Referent	Referent
	African Americans with other cancer	2.15	1.30-3.54	0.0028
	African Americans with breast cancer	0.99	0.54-1.82	0.9774
Difficulty Carrying out everyday physical activity	African Americans without cancer	1.00	Referent	Referent
	African Americans with other cancer	2.71	1.58-4.65	0.0003
	African Americans with breast cancer	0.99	0.46-2.02	0.9795
Poor Physical Health	African Americans without cancer	1.00	Referent	Referent
	African Americans with other cancer	1.59	0.95-2.65	0.0752
	African Americans with breast cancer	1.05	0.58-1.91	0.8721

Note: *Controlled for marital status, age, and education

Table 4.
Mental and Physical Health T-Score Means & Standard Deviation by Cancer Status

Variables	Cancer Group	Means	Standard Deviation	p-value
Mental	Breast Cancer	49.94	8.86	<.0001
	Without Cancer	50.70	9.20	<.0001
	Other Cancers	47.11	8.89	<.0001
Physical	Breast Cancer	49.33	9.87	<.0001
	Without Cancer	51.25	9.25	<.0001
	Other Cancers	46.26	10.09	<.0001

Note: *Scores are not weighted and are unadjusted

DISCUSSION/CONCLUSION

Findings suggest that important differences between the three groups: •Although survivors of breast cancer and survivors of other cancers reported a mean mental and physical health t-score above the national average, both populations did, however, have a lower mean t-scores than those with no history of cancer.

Results from this study have significant implications for research, treatment, and public policy. This study: •Adds to current literature on HR-QoL of African American survivors of cancer •Identifies outcomes specific to African American breast cancer survivors and health disparities associated with cancer survivorship •Contributes to current understanding of cancer survivorship experiences of African-American women