



EXAMINING THE ASSOCIATIONS BETWEEN CANCER SURVIVORSHIP STATUS AND HEALTH-RELATED QUALITY OF LIFE AMONG AFRICAN-AMERICAN FEMALE ADULTS



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ABSTRACT

Objective: The purpose of this study was to compare the health-related quality of life (HRQOL) of African American female breast cancer survivors and survivors of other cancers to African American females with no history of cancer.

Methods: African American female breast cancer survivors (n=62), survivors of other cancers (n=74), and those with no history of cancer (n=1,566) were identified from the 2010 National Health Interview Survey (NHIS). The PROMIS Global Health Scale was used to assess HRQOL.

Results: In multivariate logistic regression models adjusting for age, marital status, and education, the overall effect of cancer status was statistically significant for all HR-QoL outcome variables except fatigue; breast cancer survivors and those with no history of cancer had better physical health t-scores compared to those with other cancers and breast cancer survivors and those with no history of cancer had better mental health t-scores compared to those with other cancers. All results were weighted.

Conclusions: This study shows that African American female breast cancer survivors reported a fairly good HRQOL. However, there is an HRQOL disparity for African American female survivors of other cancers. This information regarding cancer survivorship can be used to assist with the national efforts aimed at increasing HRQOL for this population.

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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 HRQOL.

METHODS

Using the 2010 National Health Interview Survey (NHIS), a cross-sectional nationally representative health survey, we selected AAF aged ≥ 35 years and examined differences in HRQOL by cancer status. We compared three groups; AAF-BCS (n=62), AAF-SOC (n=74) and AAF-NHC (n=1,566). The Patient Reported Outcomes Measurement Information System (PROMIS) Global Health Scale was used to assess differences in current physical and mental health. The two global health outcomes comprise four items each and the summary physical and mental health scores are estimated in t-score units. Data was drawn from the Person, Sample Adult, and Cancer Control Supplement files (Sample Adult Cancer). All analyses were weighted and adjusted for age, marital status, and education.

RESULTS

Table 1: Descriptive Statistics for African American Females Aged 35 and Older by Cancer Status

Demographic	Category	Breast Cancer (n=62)		Other Cancer (n=74)		Without Cancer (n=1,566)		P-Value
		N	Weighted %	N	Weighted %	N	Weighted %	
Age	35 -54	15	24.2	22	29.7	855	54.6	<.0001
	≥ 55	47	75.8	52	70.3	711	45.4	
Marital Status	Currently Married	15	24.2	11	14.9	444	28.4	<.0001
	Not Currently Married	47	75.8	63	85.1	1122	71.7	
Education	Less than High School Diploma	17	28.3	14	19.4	348	22.3	<.0001
	High School Graduate or Greater	43	71.7	58	80.6	1212	77.7	

Table 2: Descriptive Statistics for PROMIS Physical and Mental Health Items by Cancer Status

Item	Category	Breast Cancer (n=62)		Without Cancer (n=74)		Other Cancer (n=1566)	
		N	Weighted %	N	Weighted %	N	Weighted %
Physical Health	Excellent-Good	44	78.4	44	60.2	1162	75.3
	Fair-Poor	18	21.6	30	39.3	404	24.7
Carryout Everyday Physical Activity	Completely-Moderately	50	84.1	49	64.2	1347	86.9
	A little-Not at all	12	15.9	25	35.8	219	13.1
Fatigue (Past 7 days)*	None-Mild	41	68.5	37	52.3	1082	67.3
	Moderately-Very Severe	21	31.5	37	47.7	484	32.8
Pain (Past 7 days)	0-5 days	16	75.3	30	59.4	377	75.9
	6 -10 days	46	24.8	44	40.6	1189	24.2
Quality of Life	Excellent-Good	50	86.4	57	82.4	1325	84.9
	Fair-Poor	12	13.6	17	17.6	241	15.1
Mental Health	Excellent-Good	55	92.9	57	79.4	1339	86.2
	Fair, Poor	7	7.1	17	20.6	227	13.8
Social Activities and Relationships	Excellent-Good	51	82.7	52	73.0	1327	84.7
	Fair-Poor	11	17.3	22	27.0	239	15.3
Bothered with Emotional Problems*	Never-Rarely	46	73.3	42	61.2	1113	70.5
	Sometimes-Always	16	26.7	32	38.8	453	29.5

RESULTS

Table 3: Weighted Multivariate Logistic Regression Models of PROMIS Physical and Mental Health Items *

Domain	Item	Group	OR	L 95% CI	U 95% CI
Physical	Physical Health	Breast Cancer	1.23	0.64	2.35
		Other Cancer	2.33	1.33	4.06
		No Cancer (Ref)	1.00	Ref	Ref
	Carry Out Physical Activity	Breast Cancer	0.79	0.42	1.49
		Other Cancer	2.58	1.41	4.74
		No Cancer (Ref)	1.00	Ref	Ref
	Fatigue (Past 7 days)	Breast Cancer	0.99	0.50	1.98
		Other Cancer	2.17	1.18	3.98
		No Cancer (Ref)	1.00	Ref	Ref
	Pain (Past 7 days)	Breast Cancer	1.06	0.60	1.87
Other Cancer		2.87	1.72	4.78	
No Cancer (Ref)		1.00	Ref	Ref	
Mental	Quality of Life	Breast Cancer	0.84	0.44	1.60
		Other Cancer	1.58	0.87	2.85
		No Cancer (Ref)	1.00	Ref	Ref
	Mental Health	Breast Cancer	0.85	0.45	1.62
		Other Cancer	2.01	1.11	3.64
		No Cancer (Ref)	1.00	Ref	Ref
	Social Activities/Relationships	Breast Cancer	0.79	0.42	1.47
		Other Cancer	2.03	1.14	3.63
		No Cancer (Ref)	1.00	Ref	Ref
	Emotional Problems	Breast Cancer	1.00	0.48	2.08
Other Cancer		1.70	0.92	3.14	
No Cancer (Ref)		1.00	Ref	Ref	

* Adjusted for Age, Marital Status, and Education

Table 4: Weighted Multivariate Logistic Regression Models of PROMIS Physical and Mental Health T-Scores

Domain	Variable	Group	Unadjusted			Adjusted *		
			Beta	SE	P-Value	Beta	SE	P-Value
Physical	Cancer Group	Breast Cancer	5.05	1.95	< 0.05	4.45	0.21	< 0.001
		Other Cancer (ref)	Ref	Ref	Ref	Ref	Ref	Ref
		Current Treatment	Yes			-5.86	0.01	< 0.001
	Cancer Free	No (ref)				Ref	Ref	Ref
		Yes				1.55	0.18	< 0.001
		No (ref)				Ref	Ref	Ref
Mental	Cancer Group	Breast Cancer	3.30	1.62	< 0.05	2.08	0.14	< 0.001
		Other Cancer (ref)	Ref	Ref	Ref	Ref	Ref	Ref
		Current Treatment	Yes			-2.17	0.01	< 0.001
	Cancer Free	No (ref)				Ref	Ref	Ref
		Yes				0.82	0.12	< 0.001
		No (ref)				Ref	Ref	Ref

* Adjusted for Age, Marital Status, and Education

DISCUSSION/CONCLUSION

For Physical Health: Those with other cancers were more 2 times more likely to report poorer health on all 4 physical items relative to those without cancer. Those with breast cancer were not statistically different from those without cancer on any of the 4 items.

For Mental Health: Those with other cancers reported poorer mental health and satisfaction with social activities and relationship relative to those without cancer. Those with breast cancer were not statistically different from those without cancer on any of the 4 items.

PROMIS Physical Health T-Scores: Those with other cancers reported lower scores on physical health relative to those without cancer. There was no statistically significant difference between those with breast cancer and those without cancer.

PROMIS Mental Health T-Scores: Those with other cancers reported lower scores on physical health relative to those without cancer. There was no statistically significant difference between those with breast cancer and those without cancer.

Treatment Models:

PROMIS Physical Health T-Scores: Large effect of current treatment Large difference between those with breast cancer and those with other cancers Small effect of being cancer free

PROMIS Mental Health T-Scores: Moderate effect of current treatment. Moderate difference between those with breast cancer and those with other cancers. Small effect of being cancer free