

Breast Cancer Screening in Black and Hispanic Subpopulations

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Abstract

Background: The primary objective was to examine and compare the breast cancer screening adherence rates between black (African American and Afro-Caribbean) and Hispanic (foreign born Hispanic and US-born Hispanic) subpopulations.

Methods: Study data was collected in community settings in New York City between the years of 2011-2012. Participants (N=592) were black and Hispanic individuals who attended a breast cancer screening community outreach program. Breast cancer screening rates as well as demographic data were collected.

Results: Results revealed that Afro-Caribbean and foreign-born Hispanics are at a greater risk for non-adherence in breast cancer screening compared with African Americans and US-born Hispanics.

Conclusions: The majority of breast screening research and community outreach programs categorize people into broad racial and ethnic groups (e.g., black and Hispanic). The results revealed significant variability within these broader racial/ethnic categories with regard to breast cancer screening. Community outreach programs and future research efforts should target the subpopulations that are at particular risk for breast cancer screening non-adherence.

Keywords: *mammography; adherence; exam; ethnic.*

Abbreviations

BC, breast cancer; ACS, American Cancer Society; CBE, clinical breast exam.

Introduction

Breast cancer (BC) is the second most prevalent cause of cancer death for women, exceeded only by lung cancer [1]. Seeking to reduce BC mortality in the United States, the American Cancer Society (ACS) has set a goal to increase ACS-compliant BC screening adherence to 90% for women forty years and older by 2015 [2]. Despite these public health initiatives, approximately one third of women remain unscreened [3]. Research examining racial and

ethnic differences in BC screening typically clusters women into broad racial categories (i.e. “black” or “white,”) and broad ethnic categories (i.e., “Hispanic” or “not Hispanic.”). Moreover, community outreach and preventative BC screening programs, such as the Witness Project of Harlem and Esperanza y Vida [4,5], also use these broad racial and ethnic categories to target women at risk for BC. However, as recognized by the National Institute of Health, racial and ethnic groups are often heterogeneous and thus it is important to also examine differences amongst racial and ethnic subpopulations [6].

Within the Hispanic community there is considerable heterogeneity in regards to country of origin, contributing to variability in cancer incidence and management [7]. For example, some research suggests that foreign-born Hispanics have lower rates of BC incidence than United States (US)-

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born Hispanics, with increasing rates corresponding to years of assimilation [7]. In addition, within the black community, there also appears to be significant BC incidence variability. Research has found that African American women have higher BC incidence rates compared to their Afro-Caribbean counterparts [8]. These emerging BC incidence disparities suggest that there may also be differences in BC screening adherence amongst these subpopulations.

To our knowledge, research has not thoroughly examined BC screening adherence rates amongst these subpopulations. This study will compare the adherence rates of screening clinical breast exams (CBE) and mammography between African American, Afro-Caribbean, and US-born and foreign-born Hispanic women. Understanding the BC screening adherence rates of these subpopulations may help eliminate disparities by effectively guiding future research and intervention efforts.

Methods

By reaching out to minority communities, the Witness Project of Harlem (targeted to black women), and Esperanza y Vida (targeted to Hispanic women) provided BC screening education in a community setting (e.g. church/senior center). Data were collected with a brief questionnaire given during educational programs. Questions surveyed age, race/ethnicity, BC screening adherence, and opinions on health care screenings. Further detail regarding the study procedures can be found in the references [4,5].

Participants

From January 22, 2011 to December 20, 2012, 73 BC education programs were conducted. Overall, 1,118 women attended the programs, of which 717 (64.1%) completed the questionnaire. Of these women, 173 (24.1%) were African American, 45 (6.3%) were Afro-Caribbean, 179 (25.0%) were US-born Hispanic/PR, 195 (27.2%) were foreign-born Hispanic, 27 (3.8%) reported as “Other” and 98 (13.6%) participants did not disclose their ethnicity. For the current study, we only included African American, Afro-Caribbean, US-born Hispanic/PR or foreign-born Hispanic women (N=592).

Table 2.

CBE and mammography screening rates with subpopulations

	African American		Afro-Caribbean		p-value*	Hispanic US/PR born		Hispanic Foreign born		p-value†	p-value‡
	N	%	N	%		N	%	N	%		
CBE Adherence					0.008					≤0.0001	≤0.0001
Adherent	100	57.8	16	35.6		113	63.1	86	44.1		
Non-Adherent	73	42.2	29	64.4		66	36.9	109	55.9		
Mam Adherence					0.062					0.005	0.003
Adherent	83	54.6	17	38.6		111	65.7	76	50.3		
Non-Adherent	69	45.4	27	61.4		58	34.3	75	49.7		

* p-value for Black subgroups only; † p-value for Hispanic subgroups only; ‡ p-value for total population. Note: Study data was collected in community settings in New York City between the years of 2011-2012.

Statistical analyses were conducted to evaluate these subpopulations’ BC screening adherence rates (mammography and CBE). BC screening adherence was defined as following the ACS screening guidelines that were in place at the time the study was initiated (annual mammograms starting at age 40; CBE every 3 years between the ages of 20-39; annual CBE starting at age 40). The participants who did not report their screening history were considered non-adherent.

Statistical analyses were performed using the IBM SPSS 20.0. Equality of proportions for categorical variables were compared using a chi-square test. All tests were two-sided and considered significant if $p \leq 0.05$.

Results

When comparing CBE and mammography screening rates using traditional racial/ethnic categories, there was not statistical significance (Table 1).

Table 1.

CBE and mammography screening rates using traditional racial/ethnic categories

	African American		Hispanic		p-value
	N	%	N	%	
CBE Adherence					1.000
Adherent	116	53.2	199	53.2	
Non-Adherent	102	46.8	175	46.8	
Mam Adherence					0.100
Adherent	100	51.0	187	58.4	
Non-Adherent	96	49.0	133	41.6	

Note: Study data was collected in community settings in New York City between the years of 2011-2012.

However, adherence differences were significant when the four subpopulations were compared. Univariate analyses revealed that US-born Hispanics were more likely to adhere to CBE and mammography guidelines than foreign-born Hispanics. In addition, when compared to Afro-Caribbean’s, African Americans had higher rates of CBE adherence and a trend toward higher rates of mammography adherence (Table 2).

Discussion

This study investigated whether BC screening adherence rates differed amongst black and Hispanic subpopulations. The results suggest that there is significant variability within black and Hispanic racial/ethnic groups. In particular, Afro-Caribbeans (compared to African Americans) and foreign-born Hispanics (compared to US-born Hispanics) are at greatest risk of BC screening non-adherence.

Study Limitations and Strengths

A strength of this study is that all data were collected in a community setting, rather than via telephone or Internet survey and thus the sample was not limited to participants with telephone or Internet access. This representative community sample increases the generalizability of the findings. Nonetheless, our study is not without limitations. First, BC screening adherence was measured via self-report. Secondly, other subpopulations (e.g. US-born vs. foreign-born blacks) were not measured, as we did not collect data on their country of origin, which may further distinguish these subgroups. Future research can expand our findings to address these limitations.

Conclusion

Currently, the vast majority of BC screening research and community outreach programs categorize people into broad racial and ethnic groups. However, our research results suggest that these categorizations may be too broad and that there is significant heterogeneity within these groups. Targeted research and community outreach may help reduce BC morbidity and mortality in the most vulnerable individuals. In particular, interventions should target subpopulations (i.e., foreign-born Hispanics and Afro-Caribbeans) that are at particular risk for BC screening non-adherence.

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