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Title

Factors affecting screening mammogram adherence among women at increased risk of breast cancer

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Introduction

Background

Breast cancer is the second leading cause of cancer death in women after lung cancer¹. Obesity, personal history, and family history are well-known factors associated with increased risk of breast cancer². The American Cancer Society recommends all women with increased risk for breast cancer to begin screening with mammograms at the latest by age 40³. Previous studies have shown conflicting data on the likelihood of obese women undergoing routine breast cancer screening⁴.

Objective

This study sought to analyze associations between factors and breast cancer screening adherence among women at increased risk of breast cancer.

Design/Sample

An IRB-approved retrospective review was performed of patients at a single academic institution from 2004-2022.

Inclusion Criteria:

- Women age ≥18
- BMI ≥30 at the initial screening mammogram
- Personal and/or family history of breast cancer

Measures:

Factors included age, race, ethnicity, family history of breast cancer, BI-RADS category, and BMI.

- BI-RADS scores of 1 and 2 were considered normal and scores of 0, 3, 4, 5, 6 were considered abnormal

Cohorts:

1. Completed initial screening mammogram by age 40
2. Completed initial screening mammogram after age 40

Analysis

- Patient characteristics were examined using t-test or chi-square test for continuous and categorical variables, respectively.
- Multiple linear regression was conducted to measure associations between screening adherence and the above factors.

Results

Table 1. Patient characteristics relative to breast cancer screening adherence (N = 3135).

	Adherent	Non-Adherent	p-value
	n = 453	n = 2682	
Age, average	37.55	57.62	<0.001
Public Insurance	20 (4.4%)	671 (25%)	<0.001
Family history	415 (91.6%)	1582 (59%)	<0.001
Hispanic or Latino	42 (9.3%)	177 (6.6%)	<0.05
Abnormal result	87 (19.2%)	488 (18.2%)	0.607
BMI, average	45.63	35.69	<0.001

Table 2. Linear regression analyses predicting breast cancer screening adherence.

Independent Variable	Slope	Std. error	t-ratio	p-value
Family history	-8.395	0.3946	21.28	<0.0001
Private Insurance	-10.16	0.3946	21.96	<0.0001
African American or Black	-0.8446	0.7131	1.184	0.2363
Asian	-2.671	0.7207	3.706	<0.0001
Hispanic or Latino, ethnicity	-1.773	0.7957	2.228	0.0259
Abnormal result	-0.1516	0.4646	0.3263	0.7443
BMI	-0.001878	0.002291	0.8197	0.4125
Constant	69.35			
R ² = 0.3495 n = 3135				

Summary

- Those with a family history of breast cancer were more likely to be adherent to breast cancer screening recommendations.
- Private insurance holders and Asian women were more likely to complete screening mammograms at an earlier age.
- BMI was not a good predictor of delaying completion of screening mammograms.

Conclusions

- Private health insurance was the strongest predictor of women at increased risk of breast cancer completing their screening mammogram by the recommended age.
- Enabling factors such as insurance and income are greater barriers to access than BMI.

References

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