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Sociodemographic Background Characteristics of Patients Who Participate in a Lung Cancer Screening Program

Amber Zhang

Thomas Jefferson University, amber.zhang@jefferson.edu

Marcella Pimpinelli

Thomas Jefferson University, marcella.pimpinelli@jefferson.edu

Brooke Ruane

Thomas Jefferson University, brooke.ruane@jefferson.edu

Russell K. McIntire

Thomas Jefferson University, Russell.McIntire@jefferson.edu

Julie Barta, MD

*Thomas Jefferson University, julie.barta@jefferson.edu**See next page for additional authors*

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Authors

Amber Zhang; Marcella Pimpinelli; Brooke Ruane; Russell K. McIntire; Julie Barta, MD; Hee-Soon Juon; and Bridget Jackson

Amber Zhang
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Sociodemographic Background Characteristics of Patients Who Participate in a Lung Cancer Screening Program

Authors:

Amber Zhang, Marcella Pimpinelli, Brooke Ruane, Russell McIntire, Julie Barta, Hee-Soon Juon

Introduction:

Despite decreasing lung cancer incidence and mortality rates, disparities in prevalence and outcomes persist between Black and White patients. Secondary analysis of the National Lung Screening Trial found screening with low-dose CT (LDCT) reduced lung cancer mortality more in Blacks than Whites. However, it is unknown if racial disparities exist in screening results, and the involved sociodemographic factors.

Objective:

The study aims to analyze characteristics that may predict screening outcomes (Lung-RADS category) in patients who received LDCT through the Jefferson Lung Cancer Screening Program (LCSP).

Methods:

Retrospective data (n=733, May 2015 to July 2017) were merged with prospective data (n=292, January to September 2018). Lung-RADS scores were categorized into a binary variable (negative=1 and 2 vs. positive=3, 4A, 4B, and 4X). Chi-square and multivariate logistic regression were conducted to examine risk factors (race, gender, age, marital status, smoking status, COPD, and BMI).

Results:

Of 1025 total participants, 688 met eligibility criteria and underwent LDCT. In adjusted analysis, age and marital status were associated with Lung-RADS result. Older patients (aOR=1.04, 95% CI=1.01-1.08) and never-married patients (aOR=1.88, 95% CI=1.09-3.26) had significantly higher odds of a positive screen. An interaction between race and gender was also identified. Compared to White women, White men (aOR=2.13, 95% CI=1.08-4.19) and Black men (aOR=2.10, 95% CI=1.01-4.42) had higher odds of positive screening results.

Discussion:

Despite no main effect of race on screening results, an interaction existed between race and gender. These findings can be further explored to develop education programs for earlier detection and treatment, increasing screening awareness in vulnerable populations.