Continued Disparities in Breast Cancer Stage at Diagnosis and Survival by Race and Socioeconomic Status

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BACKGROUND:
- Racial disparities in breast cancer exist with minorities more often presenting at advanced stages and having lower survival compared to whites.
- Since the early 2000s, implementation of national and state policies, including the Breast and Cervical Cancer Prevention and Treatment Act, have provided access to breast cancer screening and treatment for women of low socioeconomic status.
- The aim of this study is to determine if there have been improvements in early breast cancer diagnosis and survival by race and socio-economic status in the setting of national and state policies.

METHODS:
- The SEER database was utilized to identify women diagnosed with invasive carcinoma of the breast between 2000-2013.
- Race, age, stage at diagnosis, year of diagnosis, tumor grade, and hormone receptor status were collected.
- Education status was defined by quartile of percentage of non-high school graduates in the region the patient resided.
- Poverty level was defined by quartile of percentage of poverty in the region the patient resided.
- 5-year cancer specific death rates were defined as those patients who died from breast cancer within 5 years of diagnosis.

RESULTS:
- 480,972 women fulfilled the study criteria. 378,161 (78%) were white, 54,685 (11%) were black, and 54,126 (11%) were Hispanic.
- Black patients had lower education status (36%) compared to whites (16.9%) and Hispanics (21.8%) (p<0.001) (Table 1).
- Black patients were more likely to be in the highest poverty level (34%) compared to whites (24%) and Hispanics (22%) (p<0.001) (Table 1).
- Black patients were less likely to be diagnosed with stage I breast cancer (38.5%) compared to whites (52.4%) and Hispanics (41.2%) (p<0.001) and this was independent of poverty level and education status (Table 2).
- The SEER database was utilized to identify women with invasive breast cancer between 2000-2013.
- Stage 1 breast cancer (38.5%) compared to whites (49.1%) in 2000 to 48.3% in 2000 to 48.5% in 2013, respectively).
- Stage 1 breast cancer was more likely to be diagnosed compared to Hispanics (45.7%) and black patients (Figures 1 and 2).
- Minority patients, Hispanics with the highest education status (40.9%) compared to white (16.9%) and Hispanic (23.4%) patients (Table 2).
- Patients with the highest poverty level and lowest education status did not have significant increases in stage 1 breast cancer diagnosis (48.9% in 2000 to 46.1% in 2013 and 48.3% in 2000 to 48.5% in 2013, respectively).
- Stage 1 breast cancer was more likely to be diagnosed compared to Hispanics with the highest education status and blacks of high or low education status (Figures 3 and 4).
- Black patients had a higher 5-year cancer specific death rate (10.2%) compared to Hispanic (5.9%) and white patients (4.7%) (p<0.001), independent of poverty level and education status (Figures 1 and 2).

CONCLUSIONS:
- Since implementation of national healthcare policies in the early 2000s to improve access to breast cancer screening and treatment, women of lower socioeconomic status have not had improvements in early diagnosis and survival.
- A racial disparity continues with black women having the lowest diagnosis of stage 1 disease and lowest survival compared to white and Hispanic women, independent of poverty level and education status.
- Strategies to improve early breast cancer diagnosis and survival for the socioeconomically disadvantaged are needed in the setting of national policies that provide screening and treatment services, with a continued focus on addressing racial disparities in black patients.

REFERENCES: