

Racial gaps persist in how breast cancer survivors function

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Micrograph showing a lymph node invaded by ductal breast carcinoma, with extension of the tumour beyond the lymph node. Credit: Nephron/Wikipedia

An analysis of the quality of life of several thousand breast cancer survivors in North Carolina found differences in how black and white women functioned and felt physically and spiritually during treatment and two years after diagnosis.

The study, led by researchers from the University of North Carolina Lineberger Comprehensive Cancer Center, found [white women](#) reported higher physical and functional health-related quality of life scores compared with black women during active treatment. The gap in physical quality of life scores narrowed two years after diagnosis, however, and in both physical and functional measures after researchers adjusted the data to account for differences in education, insurance, and marital status. The findings suggest that improved socioeconomic conditions could enhance physical and functional quality of life for [breast cancer](#) survivors.

Yet, some differences remained. Chiefly, black women had higher spiritual quality of life scores five months and two years after diagnosis than white women, and after adjusting for socioeconomic factors.

"Black women generally had poorer physical and functional quality of life after the diagnosis of breast cancer, and socioeconomic and other factors explain some of these differences," said study co-author Andrew Olshan, PhD, associate director of population sciences at UNC Lineberger and the Barbara Sorenson Hulka Distinguished Professor in Cancer Epidemiology at the UNC Gillings School of Global Public Health. "However, for some domains, black women report better quality of life."

The study, published in the journal *Breast Cancer Research and Treatment*, drew upon surveys that assessed health-related quality of life issues for women aged 20 to 74 years who lived in North Carolina and had breast cancer. The analysis is part of the third phase of the Carolina

Breast Cancer Study, a study first launched at UNC-Chapel Hill in 1993 as part of an effort to better understand why black women have been found to disproportionately die from breast cancer. Olshan is the co-principal investigator of the study.

Researchers used surveys to gauge the physical, functional, emotional and spiritual health-related quality of life of more than 2,100 women at five months after their breast cancer diagnosis, and at 25 months, when women have typically stopped active treatment and have entered the survivorship phase.

For spiritual quality of life, researchers found that black women scored two points higher than white women at five months, when they were in the midst of [active treatment](#), and two years after diagnosis. Specifically, black women scored an unadjusted average of 41.4 points on spiritual quality of life, while white women scored an average of 39.3 at five months. Two years after diagnosis, black women scored an unadjusted average of 40.5 on spiritual quality of life, while white women had an average score of 38.5. Even after adjusting for socioeconomic factors, black women continued to score higher than white women for spiritual quality of life two years after diagnosis, the study reports.

"Black women we surveyed had significantly better spiritual wellbeing than white women, and it was both statistically significant and clinically meaningful," said the study's first author Laura Pinheiro, a doctoral candidate in the UNC Gillings School of Global Public Health.

White women's average scores for physical and functional quality of life, which track women's feelings of fatigue, nausea, pain, the woman's ability to work, sleep, acceptance of her illness and ability to enjoy things in normal life, were two to 2.5 points higher than black women at five months. The unadjusted average score for white women's physical health at five months was 20.9, compared to 18.4 for black women. For

functional health, white women scored an average of 20.1 compared to 18.2 for black women.

At 25 months after diagnosis, the researchers found that white women still scored higher for physical, social, and functional health-related quality of life, but the gap between the unadjusted physical scores for white and black women narrowed compared to what they were at five months for physical health-related quality of life. Pinheiro said that the findings, in-line with previous studies, could suggest that the health care system may have had a positive impact on the [black women](#)'s overall physical health, helping to narrow those gaps.

"As these women are entering the health care system, perhaps some of their other health conditions are better managed," Pinheiro said. "That is our speculation, and it will merit some additional investigation."

They also report that after adjusting for [socioeconomic factors](#) during survivorship, differences in physical health-related quality of life were diminished.

"Our research suggests that improved social and economic conditions could improve access to care, reduce co-morbid conditions, and other factors that are associated with both the prognosis of breast cancer, quality of life, and the disparities seen between various groups," Olshan said.

The study demonstrates the importance of the Carolina Breast Cancer Study in understanding how breast cancer and its treatment impacts the lives of North Carolinians, said the study's senior author Bryce Reeve, PhD, a UNC Lineberger member and professor in the UNC Gillings School of Global Public Health.

"We hope to use these findings to find opportunities to improve the

quality of [life](#) of women with breast cancer," Reeve said.

More information: Laura C. Pinheiro et al. Understanding racial differences in health-related quality of life in a population-based cohort of breast cancer survivors, *Breast Cancer Research and Treatment* (2016). [DOI: 10.1007/s10549-016-3965-y](https://doi.org/10.1007/s10549-016-3965-y)

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