



Breast cancer among African American and sub-Saharan African women: a tale of global inequities

Lily Gutnik^{1,2,3} · Olufunmilayo I. Olopade^{4,5} · Lisa A. Newman^{6,7} · Oluwadamilola M. Fayanju^{8,9,10,11}

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Abstract

Breast Cancer is the most common female cancer worldwide with significant global disparities, particularly disadvantaging women of African Ancestry. Though the United States and Sub-Saharan Africa are seemingly very different settings, there are many important parallels between the experience of getting diagnosed and treated for breast cancer in these two geographic regions for women of African ancestry. This commentary explores the parallels and differences and proposes an agenda to move forward to narrow the disparities gaps for some of the worlds most vulnerable women.

Keywords Breast cancer · African American · Disparities · Sub-Saharan Africa

Introduction

Breast cancer, the most common female cancer worldwide, bears significant global disparities in screening, stage at diagnosis, treatment outcomes, and survival. Despite lower incidence of the disease, breast cancer-specific mortality in low-income countries throughout Sub-Saharan Africa (SSA) is significantly higher compared to high-income countries. In fact, the case fatality for breast cancer is 48% in countries with a low or medium human development index (HDI), a rate that is four times that of countries with high HDIs [1].

Interestingly, in the United States (US), African American (AA) women have a lower incidence of breast cancer but higher mortality compared to White women. Additionally, both SSA women and AA women have higher incidence of premenopausal breast cancer compared to European women and White women in the US [2, 3]. These epidemiologic parallels then prompt the question of the extent to which genetic ancestry and tumor biology versus racial identity as a sociopolitical construct account for disparities in breast cancer burden.

✉ Lily Gutnik
lgutnik@uabmc.edu

¹ Department of Surgery, School of Medicine, University of Alabama at Birmingham, BLDG BDB 515, 1807 Seventh Ave South, Birmingham, AL 35233, USA

² O'Neal Comprehensive Cancer Center at University of Alabama at Birmingham, Birmingham, AL, USA

³ Department of Health Policy and Organization, School of Public Health, University of Alabama at Birmingham, Birmingham, AL, USA

⁴ Department of Medicine, University of Chicago, 5841 S. Maryland Ave. M/C 2115, Chicago, IL 60637, USA

⁵ Centre for Clinical Cancer Genetics and Global Health, University of Chicago, Chicago, IL, USA

⁶ Department of Breast Surgery, New York Presbyterian-Weill Cornell Medicine, 1283 York Avenue, 4th Floor, New York, NY 10065, USA

⁷ International Center for the Study of Breast Cancer Subtypes, Weill Cornell Medicine, New York, NY, USA

⁸ Department of Surgery, Perelman School of Medicine, University of Pennsylvania, 3400 Spruce St, Silverstein 4, Philadelphia, PA 19104, USA

⁹ Rena Rowan Breast Center, Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA, USA

¹⁰ Penn Center for Cancer Care Innovation (PC3I), Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA, USA

¹¹ Leonard Davis Institute for Economics (LDI), University of Pennsylvania, Philadelphia, PA, USA

Shared and contrasting contributors to disparity

Data from the last several decades show a steady decline in late-stage breast cancer diagnosis, but this progress has been uneven. Disparities in the stage distribution of breast cancer between AA and White women persist, with late-stage diagnosis among AA women continuing to be 30–40% higher than among White women [3]. The more advanced stage distribution for breast cancer is amplified among women of SSA, where rates of late-stage diagnosis remain stubbornly high and 75% of patients have stage III or IV disease at presentation [3]. Disparities researchers have characterized factors at the level of the patient (e.g., rates of basaloid and triple-negative breast cancer [TNBC]), provider (e.g., bias- and education-related deficiencies among providers), and healthcare systems (e.g., geographic barriers to receiving breast cancer screening and treatment) in explaining the heavier breast cancer burden of women with African ancestry. Advances in breast cancer detection and treatment are driven by decades of robust clinical trial data. Unfortunately, however, clinical trials in the United States feature disproportionately low accrual of AA patients, and few clinical trials are available to patients in SSA [4, 5]. This well-documented underrepresentation of women of African ancestry in breast cancer clinical trials makes efforts to clarify the multifactorial etiology of breast cancer disparities extremely challenging, and it raises legitimate questions regarding the generalizability and applicability of research findings to guideline informed treatment of Black women.

Beyond the biologic and behavioral determinants of health, structural racism and colonialism play a powerful role as a root cause of breast cancer disparities among AA women in the US and across the African Diaspora. Variations in distributions of breast cancer subtypes exemplify the complexity of this picture. Consider, for example, the role TNBC—which comprises approximately 15–20% of breast cancers in the US but population-based incidence rates for this biologically aggressive breast tumor phenotype are twofold higher among AA compared to White women, and TNBC frequency appears to be even higher among patients in SSA [6]. While the disproportionately high prevalence of TNBC in AA women certainly contributes to breast cancer mortality differences, we must also acknowledge the presence of disparities related to non-TNBC subtypes. Breast cancer outcome disparities in the US are largely driven by survival differences after diagnosis with hormone receptor-positive breast cancers, which are the most common tumor phenotypes, and less biologically aggressive but most likely to demonstrate significant heterogeneity [7]. Favorable outcomes from hormone receptor-positive breast cancer are dependent upon

appropriate use of gene expression profiling and compliance with several years of endocrine therapy. We have to question the role that provider bias may play in providing use of appropriate genomic tests to make treatment recommendations and foster adherence among diverse populations of women with breast cancer. While biology alone cannot explain the difference in survival observed between Black and White women for our most treatable form of breast malignancy, much work remains to dissect the genomic basis of breast cancer heterogeneity so that every patient has the opportunity to receive biomarker informed treatments to receive the right drug at the right time.

In the US, historical patterns of racism and disinvestment helped create and perpetuate racially and socioeconomically segregated communities with inadequate resources leading to a complex interplay of suboptimal economic, social, and health outcomes. This paradigm has been observed in other work analyzing neighborhood-level breast cancer disparities, population-level association of racial discrimination and breast cancer incidence, and other broader work on structural racism and poor health outcomes [8]. In a similar vein, historic colonialism and subsequent paternalism within the Donor and International Assistance industry have left much of SSA struggling to improve their HDIs. Most countries in SSA lack appropriate health services and infrastructure to serve all of its citizens. Especially for advanced health problems like breast cancer, this scarcity of resources translates into the richest citizens seeking healthcare abroad, the middle-class getting care in the strained domestic healthcare system, and the poorest sector of society receiving little to no healthcare.

Covid-19's impact on breast cancer disparities

The disruption to breast cancer screening and treatment caused by the COVID-19 pandemic could lead to an excess of 5,000 breast cancer-related deaths in the next decade in the US [9]. Because the COVID-19 pandemic has disproportionately affected AA women along both socioeconomic and health-related dimensions, we can reasonably predict that existing disparities between AA and White women may worsen. Many SSA government health budgets rely heavily on foreign aid from multilateral and bilateral organizations. Furthermore, the nonprofit sector and other charitable platforms are key financiers and providers of healthcare in SSA, particularly to the most impoverished communities. With the pandemic-related economic downturn worldwide, this aid will decline and already constrained national health budgets will be further curtailed, translating into decreased provision of cancer-related services and increased breast cancer-related death in SSA. Furthermore, global disruption of supply chains, particularly early in the pandemic,

aggravated an already dire situation in low resource settings like many of those in sub-Saharan Africa and widened the already existing disparities in the US. Beyond the aforementioned barriers related to resources and access to care, AA and SSA women are also both targets of systemic transnational structures that fail to prioritize the health of Black women, a theme that has been amplified and reified by the COVID-19 pandemic. Here, we compare and contrast the circumstances of AA and SSA women with regard to breast cancer disparities in the wake of the COVID-19 pandemic. We hope that lessons learned in both locations may help inform interventions across the African Diaspora for mitigating disparities in breast cancer diagnosis and care that will have been exacerbated by the pandemic.

A transnational approach to redressing breast cancer disparities in Black women

In the US, Brazil, the United Kingdom, and other countries with a significant proportion of citizens of African ancestry, communities are faced with the dueling pandemics of anti-Black racism—further illuminated through the Black Lives Matter movement—and infectious disease, with COVID-19 being only the latest virus to disrupt global health and economic stability. The way forward requires individual, community, and institutional compassion and humility coupled with a universal recognition of healthcare as a basic human right and not a commodity reserved for the privileged. Change will require recognizing and calling out the structures perpetuating inequities and a concerted effort to change them.

For example, mechanisms to assess and document racial disparities must not only be implemented within our clinics and health systems but must also be tied to mechanisms for accountability. The resultant data of these routinized examinations must serve as the basis of concrete interventions. While race is a common variable collected, it's narrow in scope. The “Black” or “African American” race option does not represent the heterogeneity of the African diaspora and therefore its implications on health. Furthermore, it's a variable commonly used in research and policy that highlights the differences between groups, mostly finding that the “Black” group fares worse in health outcomes. Yet, there is no validated measure of systemic racism, and unlike the COVID-19 pandemic where this diagnosis is a binary variable, systemic racism is a complex variable without a measurable definition, despite it being an active force for decades. Going forward, this must be a priority for researchers, clinicians, policymakers, and public health practitioners, as without accurate data demonstrating the magnitude and effects of this issue, it will continue to silently and ubiquitously drive breast cancer and other health disparities.

At an individual level, along the entire cancer continuum from asymptomatic to survivorship phases, fear, stigma, and misinformation play significant roles in the experience of breast cancer for Black Women worldwide. To add to this burden is both the fear of discrimination and inferior care because of systemic racism and accessing care during the COVID-19 pandemic for fear of contracting the virus. To help combat these insecurities, there must be engagement of multiple stakeholders including community health workers, trusted patient support groups, community organizations, and comprehensive cancer centers. Cancer-related financial toxicity is another poorly addressed side effect of cancer care already disproportionately impacting Black Women globally, particularly those of low socioeconomic status. The constructs of systemic racism, colonialism, and poor governance leave too many patients trapped and they are at higher risk of financial toxicity. While the COVID-19 pandemic has amplified this risk, it has also forced some positive restructuring in the management and delivery of breast cancer care. Most notably is the sharp uptake of telehealth and use of neoadjuvant endocrine therapy. Though the long-term outcomes of these changes are unknown, early results seem promising. As these changes and others continue to gain momentum, it is imperative that Black Women are included in these potential benefits. Clinician and researchers must establish partnerships with communities to build trust, enhance patient recruitment, disseminate research findings, and facilitate uptake of innovative healthcare delivery like telehealth, which can be particularly well suited for patients in remote locations in the US and SSA.

At a macrolevel, change will require mobilization at all levels to advocate for enactment of equitable health policy at local, state, national, and international levels. Governance must be enhanced in all countries because of the direct effects on health via policies and legislation passed. Evidence suggests that the ability to vote is correlated with positive health outcomes [10]. The legacy of Black voter suppression, a form of systemic racism, and the power of activism to thwart it have been a critical subject during the 2020 US elections and even gained international recognition in the 2021 Nobel Prize nominations. In a similar vein, the power of activism in breast cancer has led to dramatic changes in the improvement of breast cancer outcomes in the US and similar efforts are underway in many countries in SSA. The fervor of the Black Lives Matter movement and the present impetus for decolonization in global health should be leveraged in conjunction with global breast cancer advocacy movements to help mitigate and eliminate breast cancer disparities.

The parallels of the breast cancer experience for Black women in the US and in sub-Saharan Africa reflect the powerful impact systemic racism, distilled today from past enslavement and colonization of Africans in SSA and

beyond, continues to have on health. The comparable nature of breast cancer presentation in these geographically distant but thematically connected areas exemplifies the ways in which Black women—even when experiencing a deeply feminine disease – are not routinely valued as individuals or by systems. Health disparities, domestic and abroad, are rooted in inequity and are therefore avoidable. Change will require a paradigm shift to recognize and value these women and dismantle structures and systems that perpetuate inequity.

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Declarations

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