Is Breast Cancer a Disease of Affluence, Poverty, or Both? The Case of African American Women

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Breast cancer is currently the leading cause of cancer incidence among women worldwide. It accounts for nearly 1 in 4 cases of cancer among women, with 55% of cases occurring in more industrialized countries and 45% in less industrialized countries.[1] According to recent data from the World Health Organization, rates are highest in the United States and lowest in the countries of eastern Asia: 91 and 18 per 100 000 woman-years, respectively (age standardized to the 2000 world standard population; Table 1).[1]

Breast cancer is likewise the leading cause of cancer among US women (excluding nonmelanoma skin cancers), accounting for 30% of diagnosed cases.[2] In the year 2000, an estimated 182 800 women and 1500 men were diagnosed with breast cancer[2]; corresponding average annual age-adjusted (to the 1970 US standard million) incidence rates per 100 000 population in the period 1994 to 1998 were 114.3 and 1.0.[3] Between 1992 and 1998, rates were highest among White non-Hispanic women (120.5/100 000), followed by Black (101.5/100 000), Asian/Pacific Islander (78.1/100 000), Hispanic (68.5/100 000), and American Indian (50.5/100 000) women.[3]

Notably, no routinely available data exist on US population rates of breast cancer incidence (or rates for any other cancer site) stratified by socioeconomic position.[4–6] One consequence is that, during the past 50 years, only 10 US population-based studies have quantified socioeconomic gradients in breast cancer incidence rates.[7–16]

Partly on the basis of results of US[7–16] and European[17–25] incidence studies and additional case–control investigations, breast cancer typically has been portrayed as a "disease of affluence."[19,26,27] For example, supporting the view that population distributions of breast cancer are linked to level of economic development, breast cancer incidence is currently estimated to be 2.7 times higher in more industrialized than in less industrialized countries (63 vs 23 per 100 000, age standardized to the 2000 world standard population; Table 1).[1] A closer look at the evidence, however, reveals a more complex picture: although breast cancer historically has been more common in industrialized, affluent countries and among more affluent women in any given country (i.e., a positive socioeconomic gradient), incidence rates in poorer countries and among poorer women in more affluent countries are "catching up."[1,6,12,14–16,22,24]

Within the United States, mortality data from the past 2 decades likewise reveal a declining positive class gradient in breast cancer mortality, probably reflecting changing class patterns in terms of both incidence and survival.[28,29] A consistent finding is that once women are diagnosed with breast cancer, survival rates are much lower among those from poorer countries and, within any given country, among those who are poor or who face discrimination or both.[28–30]

The case of African American women is illustrative. Data from the US Surveillance, Epidemiology, and End Results (SEER) cancer registry show that, during 1996 to 1998, the lifetime risk of breast cancer for Black women (10.1%) was 73% that of White women (13.8%), but their lifetime risk of dying of the disease was 7% higher (3.4% vs 3.2%).[3] Moreover, among women aged 20 years, Black women were at higher risk than White women of developing breast cancer over the subsequent 20 years,[3] thereby creating more of a burden at younger ages.

Related data indicate that breast cancer is typically diagnosed at a younger age among

TABLE 1—Breast Cancer Incidence and Mortality: US Rates in a Global Context

	Age-Standardized Incidence Rate per 100 000		Age-Standardized Mortality Rate per 100 000	
	US 1970 Standard Million	World Standard	US 1970 Standard Million	World Standard
US women (1994–1998)[3]				
Total	114.3	96.7	24.2	19.6
White	117.9	99.6	23.8	19.2
Black	103.3	88.3	30.9	25.8
Women worldwide (2000)[1]				
Total		35.7		12.5
More industrialized countries		63.2		18.6
Less industrialized countries		23.1		9.1
Women in selected regions (2000)[1]				
North America		90.4		21.4
Northern Europe		73.2		24.6
Western Europe		78.2		23.5
Southern Europe		56.2		19.1
Eastern Europe		49.4		17.2
Australia/New Zealand		82.7		19.7
South America		45.1		14.8
Central America		36.2		11.6
Northern Africa		28.3		12.8
Western Africa		24.8		11.3
Eastern Africa		20.2		9.2
Southern Africa		31.8		14.4
Western Asia		27.9		11.8
Southeast Asia		25.6		11.5
Eastern Asia		18.1		4.9

Black and Hispanic women than among White women; likewise, it is typically diagnosed at a younger age in low-incidence than high-incidence countries.[31,32] In addition, in terms of survival within each stage of cancer (localized, regional, or distant), data indicate that between 1992 and 1997, Black women were 17% less likely than White women to survive 5 years past diagnosis and 1.8 times more likely to be diagnosed at the most advanced stage (distant).[3]

Analogous population-based SEER data on US breast cancer incidence and survival rates stratified by socioeconomic position are not available,[4,5] limiting population-based analyses of the extent to which observed Black–White disparities reflect inequalities in socioeconomic position. In the period from 1997 to 1999, the median household income among White Americans was $41 591, as compared with $26 608 among Black Americans,[33] while 1999 poverty rates were 9.8% and 23.6% for White and Black Americans, respectively.[34]

In summary, in the case of women residing in the United States, White women are more likely than Black women to be diagnosed with breast cancer, but Black women are more likely to die of the disease. Of note, this excess breast cancer risk in White women has been declining over time, and rates among Black women have been "catching up." For example, the breast cancer incidence rate among Black women was 80% of that among White women in 1973 (68.9 and 94.6 per 100 000, respectively, age standardized to the 1970 US standard million) but had climbed to 88% as of the period 1994 to 1998 (Table 1).[3]

Moreover, Black mortality rates worsened during the same time period: Black and White women had almost identical breast cancer mortality rates in 1973 (26.3 and 27.1 per 100 000, respectively, age standardized to the 1970 US standard million), but during 1994 to 1998 rates were 30% higher among Black women (Table 1).[3] Combine relatively high incidence and relatively high mortality, and the net result is that US Black women have among the highest breast cancer mortality rates in the world.

In conclusion, the conventional view that breast cancer is a "disease of affluence" is increasingly at odds with the empirical evidence and lived experiences of poorer women and women of color diagnosed with breast cancer.[6,31,35] Misperceptions of the population burdens imposed by breast cancer can hinder efforts to understand, prevent, treat, and control this disease.[6,35,36] It is time to move to a more accurate and complex assessment of social disparities in risks of being diagnosed with and dying from breast cancer. ■

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