MAYO CLINIC

Racial Disparities and Excess Cardiovascular Mortality Before and During the COVID-19 Pandemic: Time for a Solution

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Health disparities are a complex and multifactorial construct involving lack of access to health care, differential treatment modalities, and different outcomes for the same disease based on racial or socioeconomic class. Disparity in health care has garnered an increasing amount of attention from health care providers and health policy experts.[1] Several studies have elucidated the effect of health care disparity between different socioeconomic and ethnic groups on cardiovascular (CV) outcomes as well as relating to the ongoing SARS-CoV-2 infection (COVID-19) pandemic. Whereas these underlying disparities in CV outcomes have been well described, the COVID-19 pandemic appeared to have augmented these disparities and the associated burden to health care.[2]

The burden of CV disease in the Black population is disproportionately high and remains a primary cause of disparities in life expectancy between Black and non-Hispanic (NH) White persons.[3] An American Heart Association statement on CV health in African Americans reviewed the literature in PubMed and Centers for Disease Control and Prevention data and found an increase in heart failure, stroke, and peripheral vascular disease with no difference in the incidence of coronary heart disease. However, the investigators found increased disparity in mortality, with higher mortality rate in Blacks for all CV causes of mortality, with higher rates of each of the causes of CV mortality.[3] A cross-sectional study used data from a behavioral risk factor survey that demonstrated higher disparities of CV risk factors prominent in NH Black women of childbearing age living in southern states.[3] These risk factors in the survey include blood pressure, total cholesterol concentration, elevated glucose level, smoking, high body mass index, low physical activity, and diet identified as ideal CV metrics among the 269,000 participants.[4] Existing data highlight a higher risk factor burden (eg, increased prevalence of hypertension, high body mass index, smoking, and diabetes) and higher prevalence of atherosclerotic CV disease in Black patients with familial hypercholesterolemia in comparison to their NH White counterparts.[3] Finally, whereas CV disease mortality had been declining before the COVID-19 pandemic, a greater decrease occurred in NH White people compared with people of color.[3] As noted before, multiple factors sustain those disparities, including decreased access to health care facilities, health illiteracy, decreased access to nutritional foods, and a culture in which activities predisposing to CV disease (eg, smoking) are more prevalent.[5]

The COVID-19 pandemic has intensified existing disparities in vulnerable communities. Studies have demonstrated an increase in excess mortality in Black individuals due to the pandemic and have identified racial and ethnic disparities.[6] Multiple factors account for this disparity in excess mortality in minority patients. There is an overrepresentation of low-income earning Black individuals, especially women of color, who were frequently frontline workers more exposed to the community spread of the virus.[5,6] This is further exacerbated by pay inequality and the implications of financial and household burden on single-parent families, with a higher percentage seen in Black and Latina households.[3] The racial differences in patients affected with COVID-19 and the demographic distributions have been

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demonstrated by Woolf et al,[7] who showed that between March 1, 2020, and January 2, 2021, the United States experienced 2,801,439 deaths from COVID-19, which was 22.9% (522,368 deaths) more than anticipated. Whereas excess deaths increased in all regions in 2020, certain states with prevalent Black populations, like New Jersey, New York, Mississippi, Arizona, Alabama, Louisiana, South Dakota, New Mexico, and Ohio, demonstrated the highest per capita rate of excess deaths.[7] However, the percentage of excess deaths in the Black population exceeded the percentage of the US population composed of Black Americans.[7] Aside from the community risk factors listed before leading to a higher frequency of COVID-19 infections in Black Americans, disparity of care arises from fewer health care facilities available to minorities in these regions.[5]

In this issue of *Mayo Clinic Proceedings*, Janus et al[8] address the impact of the COVID-19 pandemic on population-level differences in cardiovascular death (CVD) in the United States using the Multiple Cause of Death Files maintained by the National Center for Health Statistics. They analyzed the differences between CVD and its 3 subtypes—death from myocardial infarction, death from stroke, or death from congestive heart failure—among different racial and ethnic populations while comparing cause of death in patients before 2018 and 2019 and during 2020 and 2021. For this study,[8] race was determined by patient self-report, by reports of an informant (which may have included surviving next of kin), or on the basis of observation from medical professionals. They reported a 3-fold higher rate of excess CVD mortality in Black individuals compared with NH White individuals.[8] The authors also noted that of 3,598,352 CVD deaths that were analyzed during the four 1-year study periods, there was a higher percentage of older, female, and Black individuals who died of stroke or heart failure.[8] An important finding in this study is that Black patients had higher excess mortality than Whites as well as a larger increase excess mortality from CVD during the 2 pandemic years. Similar to Woolf et al,[7] these investigators[8] also found the greatest difference in CVD among those residents of southern states.

Acknowledgment of the evolution of the social, political, economic, and historical context of race and ethnicity is integral to effective health care practice and delivery. Whereas there is increased prevalence of CVD comorbidities in Black populations, socioeconomic factors are more consequential to health disparities. For instance, a vital fundamental driver of health care disparities is unequal access to and distribution of high-quality health care.[8] Lack of trust in the US health care sector by Black communities is also an important barrier to discuss in health care inequality. This exists because of the historical legacy of exploitation and persecution by the US health care system that affected generations of Black communities. Moreover, this perceived (and actual) discrimination, fear of experimentation, and racism experience contribute to the generalized mistrust toward the health care system among the Black community and ultimately affect their desire to seek care.[9] In addition, low health literacy significantly affects patients' ability to process and apply information to make sound health-related decisions.[10] There is increasing evidence that low health literacy is associated with adverse outcomes and could be a predictor of mortality in the general population among individuals with CVD, diabetes, and mental illness.[10] A study by Chaudhry et al[11] evaluated health literacy among Black and White patients with heart failure. The authors determined that the Black race was strongly associated with worse health literacy and all measures of poor access to care in comparison to their White counterparts.

As noted by Purnell et al,[5] remedying health care disparity requires a multilevel approach starting with the patient (level 1) but then including family and friends (level 2), health care organizations and providers

(level 3), and finally policymakers (level 4). Identifying and advocating policies that eradicate inequities in access to health care and socioeconomic and education opportunities will help alleviate the burden to marginalized communities and the health care industry. Several strategies can be employed. First, health care must be brought to the communities where minority patients reside. A person will not seek health care or change their habits if it is too difficult to access the system. Providing health care conveniently to these patients is also an opportunity to build trust as the patients see the providers in their community and participating in community activities. Opportunities to improve the socioeconomic status of people must be made available so the patients can afford their health care and their environment. A place where one does not have enough income to provide adequate food and shelter leads to behaviors that increase the risk of disease, particularly CV disease.[5] This is reflected in the increased frequency of diabetes, heart disease, obesity, and smoking (all major risk factors of CVD) in low socioeconomic, predominantly minority communities.[5] Financial and food security lead to better health behaviors and improved health education in minority communities. This can be achieved by providing easy access to information and health care services through effective patient education materials, strengthening of provider-patient communication, and individualized self-care support for those with literacy challenges.[10] We must also reestablish trust in these communities of color by redoubling our efforts to provide effective cultural competency training for all clinicians and to recruit people of color to become physicians and role models for their communities.

In summary, this timely paper by Janus et al[8] demonstrates the concerning disparities and excess CV mortality that are more pronounced in Black patients before and each year into the COVID-19 pandemic. Ultimately, increasing public awareness and improving US legislative policies will potentially refine health care access for all people and in the long run provide cost-effective health care for all states.[5] As Yancy[6] stated some 2 years ago, the COVID-19 pandemic should be a major motivating factor to correct the existing disparities in care in the United States. Given the racial disparities in CV outcomes in general and their marked exacerbation by COVID-19, let us hope that Yancy's call and advocacy become a reality.

POTENTIAL COMPETING INTERESTS:

The authors report no competing interests.

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REFERENCES

1. Riley WJ. Health disparities: gaps in access, quality and affordability of medical care. *Trans Am Clin Climatol Assoc*. 2012;123:167-174.
2. Wadhera RK, Figueroa JF, Rodriguez F, et al. Racial and ethnic disparities in heart and cerebrovascular disease deaths during the COVID-19 pandemic in the United States. *Circulation*. 2021;143(24):2346-2354.
3. Camethon MR, Pu J, Howard G, et al. American Heart Association Council on Epidemiology and Prevention; Council on Cardiovascular Disease in the Young; Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; Council on Functional Genomics and Translational Biology; and Stroke Council. Cardiovascular Health in African Americans: a scientific statement from the American Heart Association. *Circulation*. 2017;136(21):e393-e423.
4. Gad MM, Elgendy IY, Mahmoud AN, et al. Disparities in cardiovascular disease outcomes among pregnant and post-partum women. *J Am Heart Assoc*. 2021;10(1):e017832.
5. Purnell TS, Calhoun EA, Golden SH, et al. Achieving health equity: closing the gaps in health care disparities, interventions, and research. *Health Aff (Millwood)*. 2016;35(8):1410-1415.
6. Yancy CW. COVID-19 and African Americans. *JAMA*. 2020;323(19):1891-1892.
7. Woolf SH, Chapman DA, Sabo RT, Zimmerman EB. Excess deaths from COVID-19 and other causes in the US, March 1, 2020, to January 2, 2021. *JAMA*. 2021;325(17):1786-1789.
8. Janus SE, Makhlouf M, Chahine N, Motairek I, Al-Kindi SG. Examining disparities and excess cardiovascular mortality before and during the COVID-19 pandemic. *Mayo Clin Proc*. 2022;97(12):2206-2214.

9. Rusoja EA, Thomas BA. The COVID-19 pandemic, Black mistrust, and a path forward. *EClinicalMedicine*. 2021;35:100868.
10. Friis K, Aaby A, Lasgaard M, Pedersen MH, Osborne RH, Maindal HT. Low health literacy and mortality in individuals with cardiovascular disease, chronic obstructive pulmonary disease, diabetes, and mental illness: a 6-year population-based follow-up study. *Int J Environ Res Public Health*. 2020;17(24):9399.
11. Chaudhry SI, Herrin J, Phillips C, et al. Racial disparities in health literacy and access to care among patients with heart failure. *J Card Fail*. 2011;17(2):122-127.