African American Patient Disparities in COVID-19 Outcomes: A Call to Action for Physiatrists to Provide Rehabilitation Care to Black Survivors

Charles A. Odonkor, MD¹, Maurice G. Sholas, MD, PhD², Monica Verduzco-Gutierrez, MD³, Ross D. Zafonte, DO⁴,⁵,⁶, Julie K Silver, MD⁴,⁵,⁶

¹ Yale Medicine, Yale New Haven Health System, Department of Orthopaedics & Rehabilitation, Division of Physical Medicine and Rehabilitation
² Sholas Medical Consulting, LLC, New Orleans, LA
³ University of Texas Health Science Center San Antonio Long School of Medicine, Department of Rehabilitation Medicine
⁴ Spaulding Rehabilitation Hospital, Department of Physical Medicine and Rehabilitation, Harvard Medical School
⁵ Brigham and Women’s Hospital, Boston, MA
⁶ Massachusetts General Hospital, Boston, MA

Disclosure/Funding: Authors have no conflicts of interest to disclose related to this work. No funding was received to support this investigation.
Corresponding author:

Julie K. Silver, MD
300 1st Avenue
Charlestown, MA 02129
julie_silver@hms.harvard.edu

Keywords: COVID-19, black patients, disparities, rehabilitation
Background

SARS-CoV-2 is a novel and highly contagious coronavirus that has been a major threat to the public’s health. Seemingly, COVID-19, the viral illness that manifests as a result of SARS-CoV-2 infection, would not discriminate among people with various ethnic or racial backgrounds. However, as the pandemic spread across the United States (US), it has become abundantly clear that vulnerable populations include not only the elderly, individuals with disabilities, those who are homeless or incarcerated, but also African Americans (AA), Latinx Americans, and Native Americans.¹ A study by Mahajan and Larkins-Pettigrew is the first nationwide analysis of COVID-19 and race on a county level; this study primarily focused on African Americans as this demographic group has been previously reported to be at high risk for mortality from COVID-19.² As such, we focus our comments in this paper on the Black American patient experience, inclusive of African Americans.

Clinical Question

Are Black Americans at higher risk for COVID-19 infection and mortality? If disease is more severe in these populations, how can physiatrists intervene to improve functional outcomes in survivors?

Summary Answer

The study found that African Americans have a higher percentage of COVID-19 confirmed cases, confirmed deaths, and case mortality on a county-level analysis. These findings support many city and statewide analyses, and there is a need for targeted resources, including rehabilitation care, to examine and address this at-risk population.
Why is this relevant to physiatry?

As experts in function and disability, physiatrists have a unique role in addressing the anticipated surge in short- and long-term rehabilitation needs of COVID-19 patients. Although the full clinical spectrum of associated impairments of COVID-19 remain unknown, recent data indicates multi-system impact with neurologic, musculoskeletal and cardiovascular sequelae. Given the disproportionate racial demographics of COVID-19, physiatrists can help forge a path to recovery with timely rehabilitative interventions. In the context of health disparities, a concerted effort is needed to provide equitable rehabilitation services for COVID-19-survivors from marginalized communities, with future research focused on social determinants of health.

Research Findings

The study included 2886 counties (96% of all US counties) with confirmed COVID-19 cases categorized by racial group (African Americans, Asian-Americans and Whites). \(^2\) There were weak positive correlations (r <0.3) between case mortality rates (number of deaths divided by number of confirmed cases) and racial makeup (African–Americans and Asians). Individuals with COVID-19 were more prone to die if they resided in a county with higher proportions of African–Americans and Asians. The opposite was true for individuals in predominantly White communities. Interpretation of the study findings must be tempered by its limitations. \(^2\) There was no adjustment for potential confounders such as comorbidities and social determinants of health. Albeit significant (P < 0.0001), correlations with negligible magnitudes (r ≅ 0) are insufficient to draw meaningful conclusions. Large enough sample sizes alone may yield statistically significant p-values. Big data analysis is able to treat Type 1 errors (alpha), but is not
as good with Type 2 errors (beta). The study highlights COVID-19 racial-disparities but fails to explore underlying potential bias and confounders.

**Impact of these Findings on Physiatric Clinical Practice:**

This study highlights the higher morbidity and mortality due to COVID-19 faced by African-Americans, and further supports known health inequities manifested across underrepresented communities in the United States (US). The disproportionate numbers of Black patients with severe COVID-19 infections are a harsh reminder of how vital rehabilitation services will be in the recovery of our communities of color. Healthcare access is one of the metrics that determines the health outcomes of a community, and socioeconomic pandemic-related factors such as loss of employment and health insurance, will further exacerbate access issues for Black adults and children. It behooves us as physiatrists to recognize the multitude of sequelae faced by survivors of COVID-19 and prioritize rehabilitation services. We must look at social determinants of health and break down barriers to ensure African American communities have access to high quality rehabilitation treatment that is effective, comprehensive, and long-term.

**What questions remain outstanding?**

In this report, we are turning our lens toward the disproportionately high rate of Black Americans affected by severe COVID-19 infections. This study combined with other research (e.g., Tuskegee syphilis study, infant and maternal mortality studies) and in conjunction with mortality and morbidity data from the Center for Disease Control (CDC) paint a deeply troubling picture of the disparate effects of the virus on the Black community in the US. Research on causality is evolving; however, almost certainly the reasons are multifactorial and involve health-related
factors that are supported by a well-documented history of racism with inadequate responses to date. Analyzing current data shows that if Black patients with COVID-19 died at the rate of White patients, many thousands of Black Americans would be alive today. As physiatrists, we must focus our professional work on the survivors of COVID-19. Since we know that a disproportionate number of Black Americans who survive COVID-19 will have a more severe course of disease, we can anticipate that they will need multidisciplinary rehabilitation services throughout the care continuum. Physiatrists, together with the entire rehabilitation community, must heed a call to action and be intentional in seeking referrals of critically ill Black patients. Once referred, our programs must be administered in a way that is geographically accessible to Black communities and culturally competent. The pandemic has laid bare systemic inequities that preferentially disadvantage marginalized communities. However, Physiatry has the ability to change the narrative and show that “Black Lives Matter” is more than a slogan, but a foundational principle of our field.
References

1. Okonkwo NE, Aguwa UT, Jang M, et al. COVID-19 and the US response: accelerating health inequities [published online ahead of print, 2020 Jun 3]. *BMJ Evid Based Med.* 2020;bmjebm-2020-111426. doi:10.1136/bmjebm-2020-111426

2. Mahajan UV, Larkins-Pettigrew M. Racial demographics and COVID-19 confirmed cases and deaths: a correlational analysis of 2886 US counties [published online ahead of print, 2020 May 21]. *J Public Health (Oxf).* 2020;fdaa070. doi:10.1093/pubmed/fdaa070