JACC: ADVANCES VOL. 3, NO. 7, 2024

VIEWPOINT

Achieving Equity in Hypertension Control

Could Addressing Clinician Implicit Bias Play a Role?

Sarah M. Wilson, PhD,[a,b] Kimberly S. Johnson, MD,[c] Laura P. Svetkey, MD[c]

Hypertension prevalence, severity, and lack of control are highest in non-Hispanic Black individuals and translate into higher cardiovascular risk.[1] Thus, unsurprisingly, some estimates of age-adjusted mortality for hypertension-related deaths are as much as 4 times higher in non-Hispanic Black individuals compared to non-Hispanic White individuals.[1] In 2020, then U.S. Surgeon General, Jerome Adams issued a "Call to Action to Control Hypertension," emphasizing the need to address all contributions to hypertension racial disparities—structural inequities, social determinants of health, access to care, and clinical practice.[2]

Historically, much of the research targeted at reducing racial disparities in hypertension control focused on patient-level factors (eg, self-management).[2] However, there has been a recent push to expand efforts to address additional social determinants of health and structural racism as important contributors to disparities in hypertension management.[1] This focus makes sense since Black individuals are less likely to reach hypertension control targets even when controlling for socioeconomic status and access to health care.[1] Building on this new focus on system-level influences, we posit that any comprehensive approach to reducing racial disparities in hypertension must also include addressing clinician racial bias. Racial implicit bias is defined as common automatic associations informed by racial stereotypes, leading to unconscious negative attitudes toward Black individuals.[3] Although clinicians generally aspire to equitable care, they, like the general population, are likely to hold negative attitudes toward Black patients compared to White patients.[3] These unconscious negative attitudes have been found to affect medical decision-making and a host of downstream clinical outcomes.[3]

Although a number of studies have focused on the role of provider racial implicit bias in the care of patients with cardiovascular disease, pain, etc., there is a dearth of research examining the association between clinician implicit bias and hypertension treatment outcomes. Additional knowledge is needed on the extent to which implicit bias mitigation affects downstream hypertension treatment outcomes for Black patients. To that end, we have developed a new theoretical model that builds upon prior research in hypertension management and, more broadly, in implicit bias (**Figure 1**). Here, we build upon a previous model of implicit bias and clinician communication in general clinical contexts (not specific to hypertension).[4] We provide specific pieces of evidence supporting our model and call for additional research to test its validity.

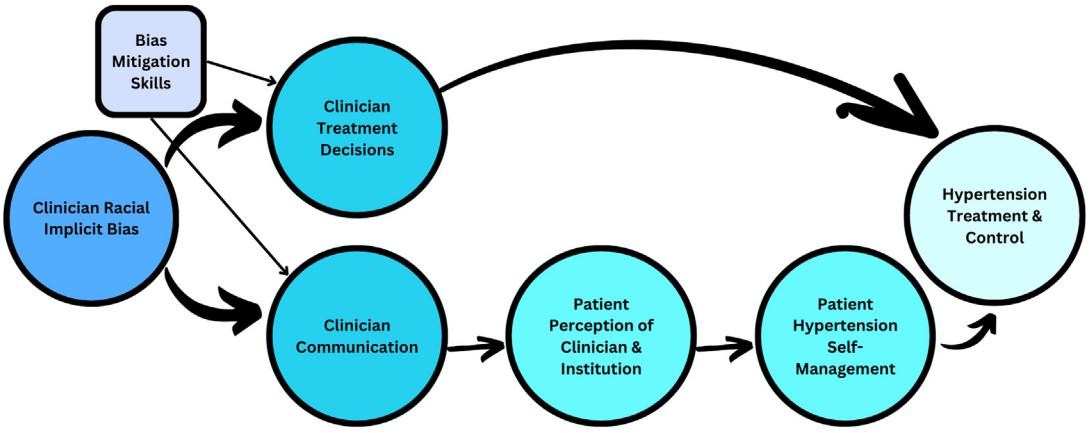
As shown in the upper pathway of **Figure 1**, we argue that clinician implicit bias impacts hypertension treatment decisions for Black patients (including clinical inertia, defined as a lack of treatment intensification when therapeutic goals for hypertension are not met). Outside of hypertension research, there is a well-established link between clinician racial implicit bias and medical decision-making.[3] Within hypertension research, multiple studies have detected racial inequities in clinical inertia. For example, in a recent study involving over 16,000 patients in 11 safety net clinics, racial inequities in hypertension treatment intensification accounted for at least 21% of observed racial disparities in blood pressure control.[5]

From the [a]Department of Psychiatry & Behavioral Sciences, Duke University School of Medicine, Durham, North Carolina, USA; [b]Mental and Behavioral Health Service, Durham Veterans Affairs Health Care System, Durham, North Carolina, USA; and the [c]Department of Medicine, Duke University School of Medicine, Durham, North Carolina, USA.

The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the Author Center.

ISSN 2772-963X https://doi.org/10.1016/j.jacadv.2024.100951

FIGURE 1 Conceptual Model of Clinician Racial Implicit Bias and Blood Pressure Control in Black Patients



This model is adapted with permission from Hagiwara et al 2019.[4] The model depicts directional associations between clinician racial implicit bias and downstream hypertension treatment and control outcomes for Black individuals receiving clinical care. Proposed mediating influences include clinician treatment decisions and clinician communication, with downstream effects on patient perceptions and hypertension self-management.

Although overall evidence is mixed in terms of detection of racial inequities in hypertension treatment intensification, we believe these inconsistencies are related to health system differences in clinician implicit bias mitigation skills and in systems-level standardization of hypertension treatment intensification (eg, technology-driven clinician decision support tools). There is only one known study that has examined the association between provider implicit bias and hypertension treatment intensification.[6] This study did not detect an association between clinician racial implicit bias and treatment intensification; however, the study also did not detect any racial inequities in hypertension treatment intensification in the sample, which raises concerns about the generalizability of findings to settings where there are racial inequities in treatment intensification. We argue that more research is needed investigating the link between clinician racial implicit bias and hypertension treatment decisions.

In the lower pathway of **Figure 1**, we depict the associations between clinician racial implicit bias, clinician communication, patient perceptions, hypertension self-management, and ultimately hypertension control. This pathway is based upon work outside of hypertension research, which indicates that clinician racial implicit bias is consistently associated with clinician communication during clinical encounters and can have downstream effects on patient perceptions and health-related behaviors.[4] When patient-clinician interactions are directly observed, level of clinician racial implicit bias (ie, preference for White race) is linked with a higher likelihood of exhibiting poor-quality communication with Black patients, including more verbal dominance, less patient centeredness, and less empathetic communication.[7] This poorer quality communication then has downstream effects on outcomes like patient satisfaction and trust in clinicians.[4] We argue this perception of the clinical encounter can have downstream effects on patient health behaviors related to hypertension self-management, treatment engagement/follow-up, and medication adherence. Indeed, 1 study demonstrated that low-quality patient-provider communication is associated with lower hypertension medication adherence, especially for Black patients.[8] According to our model, findings of lower antihypertensive medication adherence among Black individuals can be partially attributable to the impact of clinician communication behavior on patient behavior.

We acknowledge that there are numerous factors that could potentially moderate associations within this model. The Surgeon General's 2020 "Call to Action"[2]—in addition to other subsequent work[1]—has highlighted potential moderating effects of exposure to systemic racism and other social determinants of health, such as low residential access to safe spaces

for exercise, residing in food swamps (ie, areas with low access to healthy, affordable foods), and experiences of discrimination. We surmise that individuals with numerous structural barriers to health care and blood pressure control may not be as affected by clinician communication.

One modifiable factor within the model that we highlight is clinician implicit bias mitigation skills (see upper left corner of **Figure 1**). We suggest that the impacts of clinician implicit bias on communication and treatment decision-making can be mitigated by working with clinicians to increase specific skills. There is evidence that certain intervention techniques can reduce racial implicit bias (mostly in highly controlled contexts).[9] We argue that these skills—when paired with communication training centered on racial inequities—can reduce inequities in hypertension clinical inertia and clinician communication in health care settings. We further suggest that these clinician-centered changes can have downstream effects on hypertension treatment and blood pressure control. Among implicit bias reduction techniques that have shown promise,[9] we highlight skills surrounding: 1) techniques to reduce perceived time pressure among clinicians; 2) exposure to and emphasis on counter-stereotypes, or narratives that contradict common racial stereotypes; and 3) engaging in perspective-taking with patients, especially those for whom the clinician may unconsciously experience less empathy due to implicit bias. There is a lack of strong evidence that implicit bias training leads to demonstrable skills to mitigate the impact of implicit bias, and most studies have occurred with simulated patients and hypothetical scenarios.[9,10] To our knowledge, there is no research to date that has measured the impact of implicit bias training on clinician behaviors in the primary care clinical setting, hypertension clinical inertia inequities, Black patients' perceptions of care, or downstream racial disparities in hypertension medication adherence and blood pressure control. Additionally, although there have been prior implicit bias intervention studies with medical trainees,[10] we argue that implicit bias mitigation interventions must also be tested with practicing clinicians in order to create effective and timely change in achieving equity in hypertension control.

In summary, to address disparities in hypertension control, there is a clear need to establish evidence of the association between clinician implicit bias and hypertension treatment outcomes, as well as evidence quantifying the extent to which mitigating implicit bias has downstream effects on hypertension treatment outcomes. Regarding research in implicit bias and hypertension treatment outcomes, it is critical that future research occurs in real-world settings involving clinicians treating hypertension, targets hypertension clinical inertia and clinician communication skills, measures impact on racial disparities in patient-provider communication, patient medication adherence, and blood pressure control, and considers the feasibility of implementation and dissemination.

For clinicians who treat hypertension, educators in health care, and health care administrators and implementers, there is a need to recognize the possible implications of implicit bias within hypertension racial disparities and to emphasize mitigation of implicit bias using evidence-based approaches. Given evidence that mere education around implicit bias is not efficacious,[9] we recommend against efforts that rely on education alone to address implicit bias with clinicians and health care staff. Additionally, until there is strong evidence supporting implicit bias interventions, we contend there is still an ethical obligation to promote efforts to quantify hypertension inequities that may result from implicit bias and to explore ways to mitigate the impact of implicit bias within health care systems (eg, quality improvement and education). Furthermore, considering recent recommendations[4] to include measurement of nonverbal communication racial inequities, health care systems may explore ways to measure clinicians' patterns of communication across different patient racial groups. Overall, addressing these priorities for research and clinical practice will move us toward the Surgeon General's goal of helping "patients, clinicians, and communities achieve the health, wealth, and equity benefits that national hypertension control can bring".[2]

FUNDING SUPPORT AND AUTHOR DISCLOSURES

The authors were supported by National Institute on Minority Health and Health Disparities (NIMHD) grant 3U54-MD012530-05S2. The authors have reported that they have no relationships relevant to the contents of this paper to disclose.

ADDRESS FOR CORRESPONDENCE: Dr Sarah M. Wilson, Duke University School of Medicine, 508 Fulton Street, Mail Code: 152, Durham, North Carolina 27705, USA. E-mail: sarah.wilson@duke.edu. @Dr_Sarah_Wilson.

REFERENCES

1. Abrahamowicz AA, Ebinger J, Whelton SP, Commodore-Mensah Y, Yang E. Racial and ethnic disparities in hypertension: barriers and opportunities to improve blood pressure control. *Cur Cardiol Rep*. 2023;25:17–27.

2. U.S. Department of Health and Human Services. *The Surgeon General's Call to Action to Control Hypertension*. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; 2020.

3. FitzGerald C, Hurst S. Implicit bias in healthcare professionals: a systematic review. *BMC Med Ethics*. 2017;18:19.

4. Hagiwara N, Elston Lafata J, Mezuk B, Vrana SR, Fetters MD. Detecting implicit racial bias in provider communication behaviors to reduce disparities in healthcare: Challenges, solutions, and future directions for provider communication training. *Patient Educ Couns*. 2019;102:1738–1743.

5. Fontil V, Pacca L, Bellows BK, et al. Association of differences in treatment intensification, missed visits, and scheduled follow-up interval with racial or ethnic disparities in blood pressure Control. *JAMA Cardiol*. 2022;7:204–212.

6. Blair IV, Steiner JF, Hanratty R, et al. An investigation of associations between clinicians' ethnic or racial bias and hypertension treatment, medication adherence and blood pressure control. *J Gen Intern Med*. 2014;29:987–995.

7. Maina IW, Belton TD, Ginzberg S, Singh A, Johnson TJ. A decade of studying implicit racial/ethnic bias in healthcare providers using the implicit association test. *Soc Sci Med*. 2018;199:219–229.

8. Schoenthaler A, Knafl GJ, Fiscella K, Ogedegbe G. Addressing the social needs of hypertensive patients. *Circ Cardiovasc Qual Outcomes*. 2017;10:e003659.

9. FitzGerald C, Martin A, Berner D, Hurst S. Interventions designed to reduce implicit prejudices and implicit stereotypes in real world contexts: a systematic review. *BMC Psychol*. 2019;7:29.

10. Gonzalez CM, Onumah CM, Walker SA, Karp E, Schwartz R, Lypson ML. Implicit bias instruction across disciplines related to the social determinants of health: a scoping review. *Adv Health Sci Educ Theory Pract*. 2023;28:541–587.

KEY WORDS hypertension, health equity, implicit bias, clinician behavior, patient-provider communication