

University of San Diego

Digital USD

Doctor of Nursing Practice Final Manuscripts

Theses and Dissertations

Spring 5-27-2023

Church-Based Hypertension Education: An Alternative Solution to Hypertension Management in the African American Community

Nicole Tofi Rice

University of San Diego, nicolerice@sandiego.edu

Follow this and additional works at: <https://digital.sandiego.edu/dnp>



Part of the [Community Health and Preventive Medicine Commons](#), [Nursing Commons](#), and the [Public Health Education and Promotion Commons](#)

Digital USD Citation

Rice, Nicole Tofi, "Church-Based Hypertension Education: An Alternative Solution to Hypertension Management in the African American Community" (2023). *Doctor of Nursing Practice Final Manuscripts*. 222.

<https://digital.sandiego.edu/dnp/222>

This Doctor of Nursing Practice Final Manuscript is brought to you for free and open access by the Theses and Dissertations at Digital USD. It has been accepted for inclusion in Doctor of Nursing Practice Final Manuscripts by an authorized administrator of Digital USD. For more information, please contact digital@sandiego.edu.

Church-based hypertension education: An alternative solution to hypertension management in
the African American community

UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science
Beyster Institute of Nursing

DOCTOR OF NURSING PRACTICE PORTFOLIO

by

Nicole Tofi Rice

A portfolio presented to the

FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the
requirements for the degree

DOCTOR OF NURSING PRACTICE

May 2023

Acknowledgements

First and foremost, all glory and honor to God for making this achievement possible. Without His strength, favor, and grace, I would not be here, and I will forever be grateful and praise Him for His goodness. I am dedicating this accomplishment to my late grandparents, Patea and Tofi Luuga, who always dreamed that one day their grandchildren would obtain a terminal degree. I know you both are with me in spirit and have watched each and every part of this journey, though you are no longer with me. We did it!

I would like to express my deepest gratitude to my faculty advisor, Dr. Jannise Baclig. Thank you for your guidance, patience, and calming presence, especially during my many freakouts. I will forever be grateful for your expertise, encouragement, and your huge role in making this project a success.

I would like to thank my parents, Noa & Corabelle Tusiofo, NACEES, my best friend, Mimi D'avilar, Elder & Pastor Dean & Pastors Steve & Maggie Pierce, and my Mission Ministry & Holy Temple family for the prayers, encouragement, and inspiration to push through the program, even when I didn't want to, or I feel like I could.

To my husband, Cameron, thank you for loving me, supporting me, sacrificing for me, and praying with me throughout this entire process. I will always be grateful to you for giving me the space to go for anything that I put my mind to, even though there are tons of tears and complaints along the way. I love you so much, and I am so excited for how God will continue to grow us both. This is for us babe!

Documentation of Mastery of DNP Program Outcomes

**Manuscript: Church-Based Hypertension Education: An Alternative Solution to
Hypertension Management in the African American Community**

Nicole Tofi Rice, MSN, RN

Jannise T. Baclig, PhD, RN

University of San Diego

Abstract

Purpose: The objective of this evidence-based project is to explore a church-based hypertension education program as an alternative solution to providing hypertension education to the African American community. The desired goals of this project are: (a) to assess the current levels of adherence to antihypertensive therapy among members of a local African American church, using the Hill-Bone Compliance to High Blood Pressure Therapy Scale, and (b) to conduct a literature review exploring policy options encouraging the implementation of a church-based hypertension education program.

Background: Despite medical advances aimed towards prevention and effective treatment, the African American community remains disproportionately affected by hypertension.

Approximately 46% of African Americans are affected by hypertension and are twice as likely to die from a stroke or heart attack. While lack of healthcare access, limited health literacy, and mistrust in medical providers play a role in these statistics, African Americans tend to also be nonadherent to antihypertensive therapies, further worsening outcomes.

Methods: This project is a cross-sectional study in which participants completed the Hill-Bone Compliance to High Blood Pressure Therapy Scale. Participants were recruited from a local African American church and have either been formally diagnosed with hypertension or reported hypertension based on self-diagnosis.

Results: Although 25 members of the congregation were recruited and agreed to participate, only 12 members of the congregation completed and returned the Hill-Bone Compliance to High Blood Pressure Therapy Scale. Based on the scale results, participants struggled the most with remembering to take their blood pressure medication, with 50% forgetting some of the time and 33% forgetting all the time. Participants also reported difficulty maintaining the prescribed low-

sodium diet, with 67% of participants reporting they continue to eat fast food and add salt to their meals.

Evaluation: Results of this project echo the need for an alternative solution for hypertension education in the African American community. Although literature has supported the implementation of a church-based hypertension education program and has highlighted improvements in hypertension management in this population, additional studies are needed to create an effective and sustainable hypertension education program for the African American community.

Keywords: African American, hypertension education, church-based health education, Hill-Bone Compliance Scale, antihypertensive therapy, social determinants of health, healthcare disparities

Background and Significance

Hypertension affects approximately 46% of the U.S. population and is one of the foremost modifiable risk factors for cardiovascular disease (Spikes et al., 2019). Despite advancements in hypertension management, African Americans are still disproportionately affected by hypertension, which impacts approximately 46% of African American women and 45% of African American men, compared to approximately 34.5% of White men and 32.3% of White women (Spikes et al., 2019). Although complications associated with cardiovascular disease can be prevented through hypertension management, African Americans continue to be twice as likely to die from stroke or heart attack (Ferdinand et al., 2017). Lack of access to health care, poor diet, inactive lifestyle, and noncompliance to antihypertensive therapy are a few factors attributed to the increased rate of morbidity and mortality of African Americans with hypertension.

To confront the devastating effects of cardiovascular disease, *Healthy People 2030* set an objective to improve the cardiovascular health of and increase hypertension control in adults (U.S. Preventive Services Task Force, 2021). Unfortunately, there is still much work to be done to accomplish that goal, especially within the African American community. According to Spikes et al. (2019), medication nonadherence and differing beliefs about a hypertension diagnosis are a few of the factors preventing effective hypertension management in the African American community. In fact, approximately 36% of patients with cardiovascular disease comply with antihypertensive medication, with African American patients more likely to have poor medication adherence (Ferdinand et al., 2017). In addition, African American patients have reported limited understanding of their hypertension diagnosis and confusion about prescribed medications and side effects (Spikes et al., 2019). With high morbidity and mortality rates

among African Americans with hypertension, it is apparent current approaches are ineffective at improving hypertension management. Thus, an innovative approach providing necessary health education in a supportive environment must be implemented to further address hypertension management disparities in the African American community.

To accomplish effective health education within the African American community, it is imperative to delve into the cultural importance and impact of the church as the central core of the African American community. Although initially created by African American slaves as an invisible network offering opportunity for unification and assistance, the African American church has become a place of free worship, a center of African American innovation, and a hub for community empowerment (Moore, 2011). In fact, many African American institutions, colleges, businesses, and political movements began in the African American church. In addition, the church often provided financial and health education resources to the underserved population in the community, solidifying the church as a pillar within the African American community (Schoenthaler et al., 2018). According to Moore (2011), the number of African American churches continues to increase, and approximately three-fourths of the African American community claims membership to a church. For this reason, churches offer a pivotal opportunity to provide health promotion education and preventative services to the African American community.

Purpose

The focus of this project was to explore potential policy solutions emphasizing the importance of delivering hypertension education in a comfortable, accessible setting within the African American community. By surveying African Americans in the local church community and assessing current levels of adherence to antihypertensive therapy, this project aimed to find

an effective and sustainable alternative to traditional methods of hypertension education delivery and thus address the healthcare disparities experienced by the African American community. A literature review was conducted to further delve into the viability of a church-based program in hypertension management. This study further underscores the need for policies supporting the implementation of community-based hypertension education and helps make strides towards accomplishing the *Healthy People 2030* objective of improved cardiovascular disease management.

Evidence-Based Practice Model

The guiding model for this evidence-based project was the Johns Hopkins Nursing Evidence-Based Practice Model (JHNEBP), which was chosen because of its emphasis on translating evidence into practice. It was created in 2002 by the Johns Hopkins University Hospital to address the disconnect between evidence-based practices and bedside implementation (Dang et al., 2022). The JHNEBP model consists of three phases: practice question, evidence, and translation (Dang et al., 2022). It is driven by an initial inquiry or issue faced at bedside and encourages the creation of an interprofessional team to establish the practice question. Next, evidence is collected, screened, and synthesized, with the team making formal recommendations based on the results. Lastly, the evidence is implemented, evaluated, and disseminated. The benefit of this model is that the process can be reiterated based on evidence or the evolution of the initial inquiry (Dang et al., 2022). Evaluations of the recommendation are integrated into the JHNEBP model and urge clinicians to assess whether improvements still need to be made, thus encouraging further implementation of evidence-based practices.

Literature Review and Evidence of the Problem

Although disparities in hypertension management in the African American community are well-documented in medical literature, potential solutions such as mobile applications, community education programs, and telephone follow-ups are not well-researched or consistently supported. The prevalence rate of hypertension in the African American community ranks among the highest globally and is expected to increase with the implementation of new hypertension guidelines (Maraboto & Ferdinand, 2020). Hypertension is prevalent in approximately 57.6% of African American men and 53.2% of African American women (Maraboto & Ferdinand, 2020). In addition, African Americans tend to develop hypertension earlier than their White counterparts and are more likely to suffer from the complications of hypertension, such as heart failure and stroke (Spikes et al., 2019).

According to Adinkrah et al. (2020), nonadherence to prescribed antihypertensives and lifestyle modifications play a key role in the development of uncontrolled resistant hypertension in the African American community, as reflected in low self-management rates. Apart from nonadherence to antihypertensive therapy, lack of access to health care further exacerbates the disparities seen in this community. Approximately 23% of African Americans are less likely to be insured and enroll in Medicare or other private insurance (Ferdinand et al., 2020). The lack of consistent insurance affects the effective management of hypertension by a primary care team and further fuels the reluctance of older African American patients to seek and follow treatment (Ferdinand et al., 2020). Medical mistrust also impacts the willingness of African Americans to adhere to prescribed treatment plans, with African American men being more likely to refuse to seek treatment or complete preventative health screenings (Powell et al., 2019). Hypertension management in the African American community is a national health priority and has inspired

several national initiatives such as *Healthy People 2030*, the National Hypertension Control Initiative, and the Million Hearts Initiative (Adinkrah et al., 2020).

Additionally, in assessing viable alternatives to traditional means of hypertension education and management, community-based outreach has demonstrated a positive effect on improving hypertension adherence and outcomes (Ferdinand et al., 2020). A community-based outreach approach can establish rapport with the African American community, which historically has low levels of trust, and facilitate access to the health care system and the medical community (Ferdinand et al., 2020). Ideally, community-based outreach is offered in central locations significant to the African American community such as churches, barbershops, and salons. Among these, churches are highlighted as a pivotal location for hypertension education due to its position as a hub for social support and community gathering (Ferdinand et al., 2020). Church-based hypertension education programs, such as the Faith-based Approaches in the Treatment of Hypertension (FAITH) and the Church Challenge, focus on providing hypertension education and implementing healthy lifestyle behaviors (Ferdinand et al., 2020; Johnson-Lawrence et al., 2019). Both have exhibited a positive impact on systolic blood pressure and increased awareness of the importance of adherence to antihypertensive therapy (Ferdinand et al., 2020; Johnson-Lawrence et al., 2019).

Design

The Hill-Bone Compliance to High Blood Pressure Therapy (HB-HBP) scale was used in this project to assess baseline compliance levels of participants in three domains: medication adherence, salt intake, and appointment-keeping (Kim et al., 2000). Developed by Johns Hopkins University, this validated tool was intended for use by clinicians as a quick and simple way to measure the patient's adherence to high blood pressure therapy and effectively adapt the plan of

care based on the results. The HB-HBP consists of 14 items, each rated on a four-point Likert scale (Kim et al., 2000). According to Kim et al. (2000), higher scores on this tool are associated with better blood pressure control compared to lower scores, which are correlated with poor blood pressure control.

Methods and Justifications

African American participants who reported self- or physician-diagnosed hypertension were recruited from a local African American church in a rural Washington town. The evidence-based project and the HB-HBP were explained to participants and the opportunity to ask questions was provided. The HB-HBP was distributed to participants on February 11 and 12, 2023, and participants were asked to only provide their age. Initially, 25 HB-HBPs were distributed; however, only 12 scales were returned.

Ethical Considerations

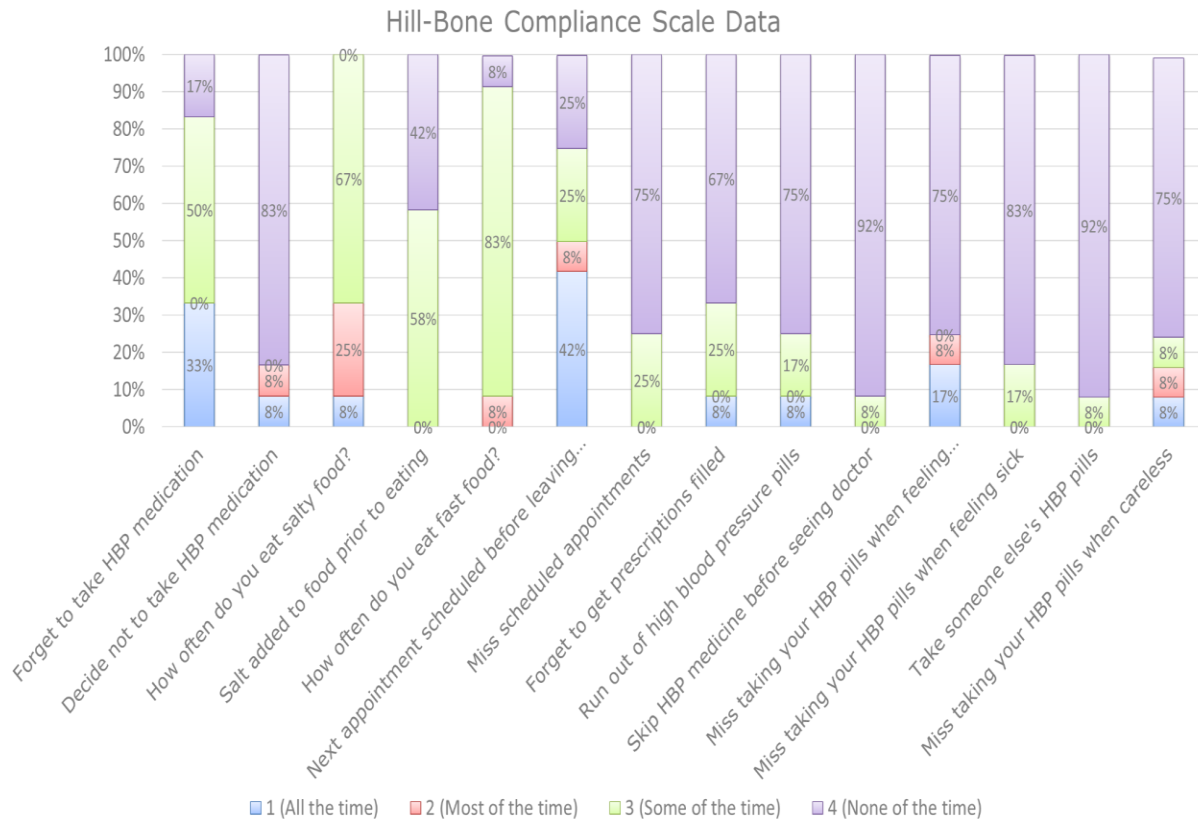
The Institutional Review Board of the University of San Diego's Hahn School of Nursing (IRB-2023-161) approved this study and written support was obtained from the pastor of the church, allowing the project to be conducted at the church.

Results

Kim et al. (2000) recommended not establishing any categories of compliance when interpreting HB-HBP data. Since the HB-HBP was only administered once, it was highly recommended to simply present baseline data. The HB-HBP scales demonstrated varied levels of adherence with medications and sodium intake; however, participants did well in keeping up with physician appointments. Figure 1 illustrates participants' responses to each question and highlights the frequency percentage of responses for each question.

Figure 1

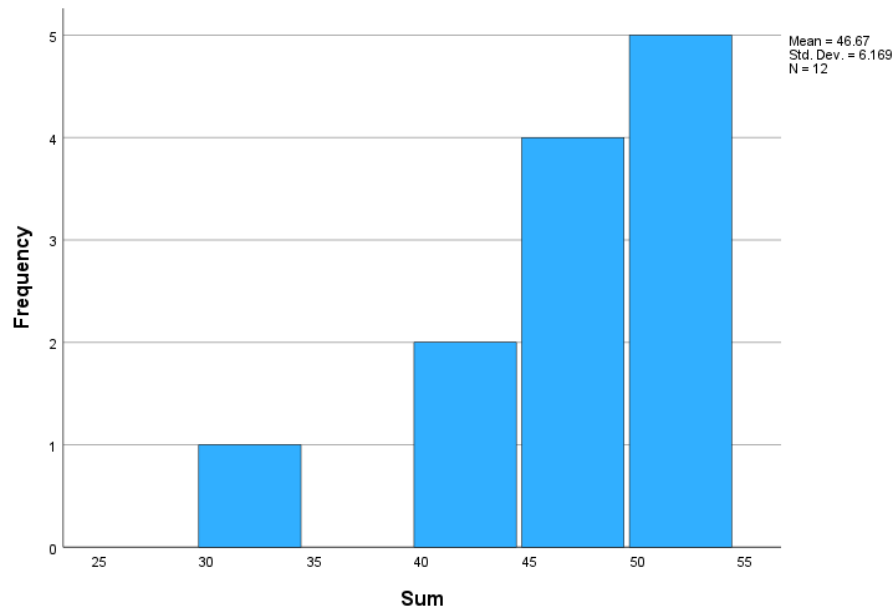
Responses for HB-HBP Scale



The mean score of total HB-HBP scores for participants (n=12) was 46.67 ± 6.169 (see Figure 2). Most participants (92%) reported never skipping high blood pressure medications before appointments and never taking someone else's high blood pressure medications. When reviewing questions regarding sodium intake, most participants (83%) reported only consuming salty or fast food "some of the time." Participants did well in keeping appointments, with 75% reporting never missing an appointment. Based on the mean cumulative scores, at least 41.7% of participants demonstrated positive adherence to antihypertensive therapies and blood pressure management (see Figure 2).

Figure 2

Cumulative HB-HBP Scores



Study Limitations

A discernible limitation of this study was the small sample size. With only 12 participants, it is difficult to generalize the results from this sample to the rest of the African American population. Although this group also highlighted an issue with medication and diet adherence, there are numerous factors differentiating this sample from the African American population in other areas of the country. Participants were recruited from a more rural setting and were either prior military members or affiliated with the military through family. It is important to consider the impact being connected to the military has on adherence, as prior military members would have access to health care resources probably not available to African Americans not affiliated with the military or in more urban areas.

Additionally, since this was administered in the church setting, potential participants who could benefit from hypertension education refused to participate for fear of “claiming”

hypertension or feeling it was not relevant. In addition, being in this particular area of Washington, there were socioeconomic factors African Americans in more urban areas would experience that this group did not, such as housing insecurity, lack of access to health care, and financial insecurity. This difference in socioeconomic status influences the generalization of this data to all African Americans, especially those within the church community.

Discussion

Based on HB-HBP results, areas of improvement appear to be adherence to a low sodium diet and regularly taking high blood pressure medications. This is consistent with what is often seen in the literature regarding African American adherence to antihypertensive regimens. However, HB-HBP scores indicated participants' adherence was not as poor as initially expected, reflecting how current methods of hypertension education are insufficient. When compared to African American church members in urban areas, the levels of adherence may differ based on access and availability of care since study participants are Tricare beneficiaries.

Medication Adherence

Forgetting to take high blood pressure medication was the most reported reason for lack of medication adherence and even then, it only occurred some of the time. There were no facets of medication adherence with which all participants consistently struggled, although this is limited due to the small sample size and the unique characteristics of the participant sample. Participants reported not usually running out of medications and never taking someone else's medications, which might be attributed to the participants being enrolled in Tricare as former military members and family members. Although the scores were better than expected, it is apparent this group of participants could still benefit from antihypertensive medication education.

Sodium Intake

Most participants struggled with adding salt to food and eating fast food. Although participants reported this did not occur all the time, it is important to note that salt is an integral part of African American cuisine. In discussions with participants about the HB-HBP questions, many vocalized this area was the most difficult to adhere to. Poor adherence to low sodium intake is another aspect frequently cited in literature and is often the focus of hypertension education within this population. The HB-HBP results emphasized the value of discussing diet and low sodium meal options in a church-based hypertension education program, especially during church gatherings where there is a variety of food.

Evidence to Action

Based on the HB-HBP results, implementing a church-based hypertension education program would be an effective solution for African Americans diagnosed with hypertension. This project demonstrated access to health care resources does not necessarily equate to better hypertension management. In fact, lack of consistent hypertension education continues to affect adherence to antihypertensive therapies. For a church-based hypertension education program to be effective, it must include education on medications and diet, with buy-in and support from church leaders. The Faith-based Approaches in the Treatment of Hypertension (FAITH) program is an example of how hypertension education can be integrated through the training of church leaders as educators for the congregation, which encourages acceptance of the program by the congregation and increases their participation. In addition, as demonstrated by the FAITH program, consistent follow-up with participants is integral to improving health behaviors and will be beneficial in improving adherence to antihypertensive therapy in the African American population.

Implications for Future Research

The church was selected as the primary location for hypertension education due to its pivotal role in the African American community; however, this is not the only community location African Americans frequent. Because most church members are often older and most likely women, the church may not be the ideal venue to provide education for African American men or younger African Americans (Powell et al., 2019). Considering this, more evidence-based practice studies must be conducted to demonstrate how other African American locations, such as barber shops or beauty salons, can be impactful as potential hubs of hypertension education. Due to the small sample size of this project, it is important to conduct further research on the differences in adherence between African Americans in rural and more urban areas and how church-based education impacts both populations. This study can also be expanded to compare adherence rates of African Americans participating in church-based education programs and those who only receive hypertension education through their primary care provider.

Conclusion

Research has underscored the healthcare disparities affecting the African American population, with a focus on hypertension management. African Americans are at higher risk of mortality and morbidity, and yet little has changed regarding how hypertension education is approached in this population. Moreover, the implementation of a church-based hypertension education program will provide essential hypertension education in a culturally significant location and improve outcomes for African Americans diagnosed with hypertension. The positive outcomes achieved through this method of hypertension education has the potential to expand to other locations central to the African American community, such as barber shops or beauty salons. More must be done to address hypertension in the African American community

and fulfill the *Healthy People 2030* objectives of increasing control of high blood pressure and improving the cardiovascular health of this at-risk population.

References

- Adinkrah, E., Bazargan, M., Wisseh, C., & Assari, S. (2020). Adherence to hypertension medications and lifestyle recommendations among underserved African American middle-aged and older adults. *International Journal of Environmental Research and Public Health*, 17(18), 6538. <https://doi.org/10.3390/ijerph17186538>
- Dang, D., Dearholt, S., Bissett, K., Ascenzi, J., & Whalen, M. (2022). *Johns Hopkins evidence-based practice for nurses and healthcare professionals: Model and guidelines* (4th ed). Sigma Theta Tau International
- Ferdinand, D.P., Nedunchezian, S., & Ferdinand, K.C. (2020). Hypertension in African Americans: Advances in community outreach and public health approaches. *Progress in Cardiovascular Diseases*, 63(2020), 40–45. <https://doi.org/j.pcad.2019.12.005>
- Ferdinand, K. C., Yadav, K., Nasser, S. A., Clayton-Jeter, H. D., Lewin, J., Cryer, D. R., & Senatore, F. F. (2017). Disparities in hypertension and cardiovascular disease in Blacks: The critical role of medication adherence. *The Journal of Clinical Hypertension*, 19(10), 1015–1024. <https://doi.org/10.1111/jch.13089>
- Johnson-Lawrence, V., Bailey, S., Sanders, P. E., Sneed, R., Angel-Vincent, A., Brewer, A., Key, K., Lewis, E. Y., & Johnson, J. E. (2019). The Church Challenge: A community-based multilevel cluster randomized controlled trial to improve blood pressure and wellness in African American churches in Flint, Michigan. *Contemporary Clinical Trials Communications*, 14, 100329. <https://doi.org/10.1016/j.conctc.2019.100329>

- Kim, M. T., Hill, M. N., Bone, L. R., & Levine, D. M. (2000). Development and testing of the Hill-Bone Compliance to High Blood Pressure Therapy Scale. *Progress in Cardiovascular Nursing*, *15*(3), 90–96. <https://doi.org/10.1111/j.1751-7117.2000.tb00211.x>
- Maraboto, C. & Ferdinand, K. C. (2020). Update on hypertension in African-Americans. *Progress in Cardiovascular Diseases*, *63*(2020), 33–39. <https://doi.org/10.1016/j.pcad.2019.12.002>
- Moore, S.E. (2011). African American megachurches and community empowerment: Fostering life in dry places. *Journal of African American Studies*, *15*(2), 129-134. DIO: 10.1007/s12111-011-9180-3
- Powell, W., Richmond, J., Mohottige, D., Yen, I., Joslyn, A., & Corbie-Smith, G. (2019). Medical mistrust, racism, and delays in preventive health screening among African-American men. *Behavioral Medicine*, *45*(2), 102–117. <https://doi.org/10.1080/08964289.2019.1585327>
- Schoenthaler, A. M., Lancaster, K. J., Chaplin, W., Butler, M., Forsyth, J., & Ogedegbe, G. (2018). Cluster randomized clinical trial of FAITH (Faith-Based Approaches in the Treatment of Hypertension) in Blacks. *Circulation: Cardiovascular Quality and Outcomes*, *11*(10). <https://doi.org/10.1161/circoutcomes.118.004691>
- Spikes, T., Higgins, M., Quyyumi, A., Reilly, C., Pemu, P., & Dunbar, S. (2019). The relationship among health beliefs, depressive symptoms, medication adherence, and social support in African Americans with hypertension. *Journal of Cardiovascular Nursing*, *34*(1), 44–51. <https://doi.org/10.1097/jcn.0000000000000519>

U.S. Preventive Services Task Force. (2021). Screening for Hypertension in Adults. Retrieved from <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hypertension-in-adults-screening>