

CULTURALLY APPROPRIATE EDUCATION IN MANAGING HYPERTENSION IN  
AFRICAN AMERICANS

A Scholarly Project

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By

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**Dedication**

I would like to dedicate this to my wonderful husband Seccheus for all of his support, encouragement, and love.

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Abstract

The historical treatment of African Americans with events such as the Tuskegee experiment and Jim Crow laws combined with distrust of the healthcare system may be affecting health outcomes in African Americans with hypertension. Cultural appropriate education by a provider of the same race is a method that can be utilized to bridge the trust gap between African Americans and providers and assist African Americans in managing their hypertension. A community based culturally appropriate educational intervention by a provider of the same race was implemented over the course of eight weeks to assist African Americans with hypertension to improve their lifestyle behaviors and lower their blood pressure. Twenty African American participants were recruited from a church and within the community to participate. Blood pressures were obtained from participants and they completed the High Blood Pressure Self-care profile (HBP SCP) Behavior Scale pre intervention and post intervention at week nine. Participants were given the culturally appropriate education and a brochure at the start of the project and received a phone call every other week to provide verbal persuasion, motivate, and answer questions. Results showed that participants had a statistically significant decrease in systolic blood pressure  $t(19) = 2.68, p < 0.015$  and a statistically significant increase in HBP SCP Behavior Scale scores  $t(19) = -4.32, p = 0.0004$ .

*Keywords:* African Americans, hypertension, lifestyle

## **SECTION ONE: INTRODUCTION**

Hypertension (HTN) is a common disease that affects approximately 78 million individuals in the United States over the age of 20. HTN is often called “the silent killer,” and typically does not present with any signs or symptoms until the disease has resulted in organ damage or a major cardiac or brain event has occurred (Still et al., 2015). Moreover, HTN disproportionately affects African Americans (AA; Still, 2015). Evidence shows that treating moderate hypertension can decrease the risk of cardiovascular disease by 15% (Roldan, Ho, & Ho, 2018). The purpose of the project was to implement and evaluate a community-based patient education program aimed at improving outcomes among AAs with hypertension. This evidenced-based project is a priority due to the disproportionate number of AAs who are affected by hypertension in the United States. Healthcare organizations and providers within the community need to discover new and innovative ways to reduce hypertension in AAs and assist them in meeting their blood pressure goals.

### **Background**

Still et al. (2015), stated that HTN prevalence among AAs is 42.1% versus 28.0% among non AAs. Racial disparities in HTN has persisted over time despite a plethora of knowledge concerning management techniques of blood pressure and the development of initiatives intended to reduce disparities (Mueller, Purnell, Mensah, & Cooper, 2015). AAs are more likely to be diagnosed with HTN when compared to other races (Still et al., 2015). A study conducted by Mueller et al., (2015), suggested that even if the awareness of HTN did not differ significantly among AAs, Caucasians, and Mexican-Americans, blood pressure control was achieved in only 65% of AAs compared to 75% in Caucasians and 74% in Mexican-Americans. Furthermore, when compared to Caucasian Americans, AAs receive a hypertension diagnosis earlier in life

and their average blood pressures are higher (Bartolome, Agnes Chen, Handler, Platt, & Gould, 2016). Still et al. (2015) reported that HTN in African Americans begins earlier, is more severe, and is more frequently associated with premature morbidity and mortality from its complications including coronary heart disease, heart failure (HF), stroke, and end-stage renal disease” (p 670). Moreover, research has shown that AAs are more likely to have four or more antihypertensives prescribed and are more likely to have received responses from providers to HTN and the adjustment of medication; however, AAs were still less likely to achieve their blood pressure goal (Mueller et al., 2015). Additionally, one study found racial disparities in preventable hospitalizations for AAs. The gap in admission rates for HTN between AAs and Caucasians widened from 2006 to 2009 (Mueller, Purnell, Mensah, & Cooper, 2015). Additionally, participation in healthy behaviors such as adhering to a low-sodium diet, engaging in physical activity, and adhering to prescribed medications was found to be lacking among AAs (Pickett, Allen, Franklin, & Peters, 2014). Additionally, AAs are exposed to certain stressors such as racism that may be one of the key psychosocial factors related to HTN in AAs (Heady & Huntley, 2013). Consequently, due to the significant number of AAs affected by HTN, the severity of HTN among AAs, and the complications of HTN in AA, an urgency exists to further research the issue and implement evidence-based interventions to improve HTN outcomes.

Culturally appropriate education is a method that can be utilized to effectively manage HTN in AAs. Culturally appropriate education is defined as education designed with the principles of patient-centered care and culturally competent care (Beune et al., 2014). Cultural competence is defined as, “a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals and enable that system, agency, or those professionals to work effectively in cross-cultural situations” (Beard, Gwanmesia, & Miranda-

Diaz, 2015, p. 59). Cultural competence can contribute to the reduction of health disparities by empowering patients and integrating their customs and beliefs into care (Douglas et al., 2014). By integrating a patient's customs and beliefs into their care, patients may be more compliant and willing to participate in the plan of care proposed by their healthcare provider.

Understanding the common barriers and facilitators to managing HTN in AAs is important for healthcare providers to know when seeking effective management techniques. Furthermore, being familiar with AA cultural practices can help healthcare providers target and specify HTN education for AAs. Nevertheless, modifying intervention components to specifically address patients' and family members' concerns can enhance the chances of an intervention's effectiveness and sustainability (Flynn et al., 2013). Lastly, AAs who see providers of the same ethnicity may be receiving education and care that is more culturally sensitive unbeknownst to the patient.

**AA culture, attitudes, and beliefs related to disease, health care, the health care system.** Africans who were captured and brought to America used the customs and traditions they had in common to create a new, blended culture of African and European traditions (Franklin & Moss, 2000). AA slaves often resisted medical care believing that their bodies were simply a means of labor production (Long, 2012). Legally, slavery ended in 1863 with the Emancipation of Proclamation; however, AAs were forced to live in separate, segregated, and oppressive conditions (Mitchem, 2007). Therefore, after the emancipation, AAs developed conflicting attitudes toward health and healing (Long, 2012). Events in United States history, such as legalized slavery, Jim Crow laws, and the Tuskegee experiment have contributed to the distrust AAs have towards the healthcare system (Kennedy, Mathis, & Woods, 2007). Thus, due to distrust and lack of access to conventional medical care, AAs historically have turned to



alternative medicine and developed their own healing traditions (Howard University College of Medicine, n.d.).

Alternative therapies include home remedies, herbal medicine, nutrition, and root work (Howard University College of Medicine, n.d.). Furthermore, this long history of distrust and mistreatment of AAs by the healthcare system can lead to noncompliance with the plan of care and a delay in seeking medical treatment (Long, 2012). Therefore, healthcare providers need to be cognizant of this when providing care to AAs particularly individuals who have experienced these events (segregation, Jim Crow Laws, etc.). Additionally, certain AA cultural practices such as diet may be contributing to the disproportionate prevalence of HTN in AAs (Gourdine, 2011).

AAs typically adhere to a diet known as the “soul food diet” which originates from the food that slaves typically ate (Gourdine, 2011). Slaves received what was considered the less desirable meats such as pig feet, chitterlings, and fatback. Additionally, slaves were given a diet that lacked fresh meat, dairy products, and vegetables (White, 1996). To season food, slaves often used salt and animal fat. Once slaves were emancipated, these practices continued and recipes were passed down through the generations (Gourdine, 2011). Therefore, understanding AA history and culture can assist healthcare providers in providing care that is effective, appropriate, and culturally competent.

### **Problem statement**

AAs have a higher prevalence of HTN when compared to other races; there are higher rates of target organ disease, morbidity, and mortality in AAs; and there is evidence of racial bias among healthcare providers that is non-favorable to AAs (Maina, Belton, Ginzberg, Singh, & Johnson, 2018; Still et al., 2015). Furthermore, racial disparities in hypertension control are to a

great extent influenced by patient's' attitudes and beliefs regarding health which as a result, affect participation in health behaviors (Long, Ponder, & Bernard, 2017).

### **Purpose of the project**

The purpose of this project was to implement and evaluate a community-based, culturally appropriate education session by a provider of the same race to assist AAs with HTN in reducing their blood pressure and to improve lifestyle behaviors that are favorable to lowering blood pressure. The intervention in this project was a culturally appropriate education plan designed to target barriers identified in the literature about AAs needing adequate blood pressure control and the delivery of the culturally appropriate education by an individual of the same ethnicity. These barriers identified in the literature included dietary practices, unhealthy weight, stress, medication non-adherence, and lack of physical activity (Ellis, Griffith, Allen, Thorpe, & Bruce, 2015; Heady & Huntley, 2013; Pickett, Allen, Franklin, & Peters, 2014). The objectives of this project were to see a reduction in blood pressure and an improvement in lifestyle behaviors that are favorable to lowering blood pressure in AAs with HTN.

### **Clinical question**

Does providing culturally appropriate education to AAs with HTN by a provider of the same race, lower their blood pressure and improve their lifestyle behaviors that affect HTN?

## **SECTION TWO: LITERATURE REVIEW**

A review of literature was completed utilizing a search strategy. Next, a critical appraisal was completed to determine the strengths and limitations of the literature reviewed. Lastly, a synthesis of the reviewed literature was completed.

### **Search strategy**

Multiple databases were reviewed for the systematic search of the literature. Some of the databases reviewed were EBSCO and Cumulative Index of Nursing and Allied Health Literature (CINAHL). Keywords that were used were African-Americans, hypertension, culture, and hypertension education. Parameters of the search included articles that were in the English language, articles less than 5 years old, and articles that were peer-reviewed. Approximately 100 studies were reviewed. Once the inclusion criteria were applied, approximately 50 studies remained. Two studies were found utilizing the hand search method. The total numbers of studies included in the review is 15. The remaining studies were excluded if they did not pertain to hypertension or AAs.

### **Critical appraisal**

Evidence for this scholarly project was critically appraised. The table of evidence is a matrix for establishing the critical appraisal of the evidence that is included in the literature review. A table of evidence is provided in Appendix A. The majority of the evidence reviewed came from qualitative studies. According to Mateo and Foreman (2014), qualitative research allows the researcher to involve people in the study and allow participants to have an active role in the research, which enables the researcher to gain new insight. Of the studies reviewed, there was one Melynk level II, one Melynk level III, and two Melynk level IVs. Three studies were a Melynk level Vs, nine were Melynk level VIs, and one was a level VII. Melynk level of evidence is defined as follows: level I is the highest level of evidence and are either systematic reviews, meta-analysis of randomized control trials, or clinical guidelines based on systematic reviews or meta-analyses; level II are one or more randomized controlled trials; level III are controlled trial with no randomization; level IV are a case-control or cohort study; level V are

systematic reviews of descriptive or qualitative study; level VI are a single descriptive or qualitative study; and a level VII are expert opinions (University of Michigan Library, 2019).

There were several strengths observed in all of the articles reviewed. For example, all of them were peer-reviewed articles and all articles had a sample that was suitable for the research purpose. Furthermore, findings in all the articles were presented appropriately and allowed the reader to come to the conclusion that the author's interpretations were grounded in data. One of the studies reviewed utilized the design of a cluster randomized trial that had a control and an intervention group. The use of a control group reduces confounding variables.

A limitation of the evidence reviewed was that the majority of the studies utilized information self-reported participant data to determine whether the intervention was effective or not. Self-reporting by participants can affect the validity of the study. Moreover, confounding variables were not accounted for in the majority of the studies reviewed. Therefore, in some studies, determining the actual effects of the interventions on the outcomes was not possible. Additionally, most of the reviewed studies' research design implemented a systematic review of descriptive data or were qualitative studies (Melnik level V and VI). Although the reviewed studies had limitations, they highlighted important self-reported barriers of HTN management in AAs.

## **Synthesis**

**HTN self-care knowledge and self-care efficacy impact on self-care behaviors among AAs.** Flynn et al. (2013) found that limited health knowledge and lack of awareness of the complications that stem from HTN delayed AA patients' participation in self-management behaviors. Furthermore, Flynn et al. (2013) found that participants only took their HTN seriously after experiencing a severe complication as a result of their HTN. Therefore, it is important that

healthcare providers emphasize the seriousness of HTN with their AA patients. Relating the severity of HTN to the statistics that affect the AA population can help make AAs with HTN more aware of the seriousness of HTN and the importance of proper HTN control and management.

The findings in the literature articulate a pattern of unhealthy behaviors in AAs that are barriers to managing HTN. Additionally, several studies had the recurring barrier of lack of knowledge regarding HTN (Khatib et al., 2014; Heady & Huntley, 2013). Furthermore, the literature reviewed revealed that AAs with HTN are not participating in healthy behaviors such as following a low-sodium diet, engaging in physical activity, and adhering to medications (Pickett, Allen, Franklin, & Peters, 2014). Unhealthy lifestyle behaviors directly affect blood pressure. Furthermore, stress is an important factor that should also be considered when educating AAs. Stress is considered one of the key psychosocial factors related to HTN in AAs as stress is related to the essence of just "being Black" which inclines an individual exposure to racism, increased poverty, and discrimination (Heady & Huntley, 2013). Lastly, medication non-adherence is more common among AAs than among Whites (Ellis, Griffith, Allen, Thorpe, & Bruce, 2015). This non-adherence among AAs may explain the lower prevalence of blood pressure control among AAs (Ellis et al., 2015). Consequently, education needs to be geared toward promoting healthier behaviors and lifestyle changes such as an increase in physical activity, a low-sodium and heart healthy diet, stress management, and medication adherence in AAs with HTN.

**Impact of culturally-competent self-care education on bp control among AAs.** One study conducted by Bokhoura, et al. (2016), showed that AAs who viewed other AAs telling stories of how they successfully managed their HTN by changing their behaviors, reported a

greater intention to change their behaviors on a post survey than those who did not view AAs sharing their stories. Furthermore, the use of culturally appropriate education was found to have positive outcomes. Migneault et al. (2012), individuals of African descent showed improvements in their overall diet quality and energy expenditure when they received culturally adapted education. Another study conducted by Meinema, van Dijk, Beune, Jaarsma, van Weert, Henk, and Haafkens (2015) indicated that individuals of African descent who received culturally appropriate hypertension education (CAHE) and had higher reported levels of self-efficacy were more likely to be adherent to medications. Additionally, patients in the same study who received CAHE also reported a better understanding of hypertension.

**Impact of AAs receiving education from individuals of same ethnicity.** One study found that AAs had less or an absent perceived threat to personal freedom when AAs have race-concordant health care providers (Abel & Barksdale, 2012). Race concordance has been associated with more active participation in decisions pertaining to health, greater satisfaction with health care services and trust in providers, and a greater adherence to the plan of care in AAs (Abel & Barksdale, 2012). Furthermore, Cooper, Roter, Johnson, Ford, Steinwachs, and Powe (2003) concluded that race-concordant visits were longer and had higher ratings of patient positive affect when compared with race-discordant visits.

### **Conceptual Framework**

For this scholarly project, the Iowa model (1998) of evidenced-based practice was utilized. Permission was granted to use the model (see Appendix E). This model has been utilized numerously to implement organizational practice change. The model is an algorithm with concise decision points and feedback loops (Schaeffer, Sandau, & Diedrick, 2012). The models steps were followed beginning with identify the trigger/form a team.

**Identify the Trigger/Form a Team.** It is important to determine whether the triggered question or problem is a priority for the organization (Schaeffer et al., 2012). This project leader met and discussed the topic with the leader at the church where the project took place. After information was discussed and presented to the organization's leader, developing an intervention to improve blood pressure and lifestyle behaviors in AAs with HTN was determined to be a priority for the organization (Iowa Model Collaborative, 2017). The clinical question was then created utilizing the problem/intervention/comparison/outcome (PICO) format: Does providing culturally appropriate education to hypertensive African Americans by a provider of the same race, lower blood pressure and improve the lifestyle behaviors that affect HTN? A letter of support was received from the organization.

The following step in the Iowa model is formulating a team to research, critique, and synthesize available evidence (Iowa Model Collaborative, 2017). The project leader formed a team consisting of the project leader, project Chair, and the supervising physician. The project leader worked closely with her project Chair throughout the duration of the project. Additionally, the project leader collaborated with a physician who supervised the project (Iowa Model Collaborative, 2017).

**Assemble, appraise, and synthesize body of evidence.** A literature review was completed. Articles that were selected were critically appraised and added to the level of evidence matrix (see Appendix A). Utilizing the evidence synthesized, it was decided that the evidence base was sufficient, change was appropriate, and the project was completed (Iowa Model Collaborative, 2017).

**Designing and piloting the practice change.** The design for this project was selected and resources, barriers, and facilitators to the project were identified. Approval was granted by

Liberty University's Institutional Review Board (IRB). Once the approval letter was received (see Appendix F), recruitment began and informed consent was obtained from participants. The pre intervention data were collected, the intervention was completed, and the post intervention data were collected and analyzed. The project was piloted in a community setting in a church. Additionally, the results were analyzed to determine if the intervention can be adopted into practice. The change was deemed appropriate to be adopted into practice; therefore, the change will be integrated into the community through the implementation of future education sessions (Iowa Model Collaborative, 2017).

### **Theoretical framework**

The theoretical framework for this project was the theory of self-efficacy. Developed in 1977 by Albert Bandura, there are two components of the self-efficacy theory: self-efficacy expectations and outcome expectations. Expectations of self-efficacy are judgments about personal ability to accomplish a given task (Smith & Liehr, 2014). Outcome expectations are the judgments about what the consequences will be if the given task is successfully achieved. Furthermore, individuals who regard themselves as highly efficacious in achieving a specific task will expect favorable outcomes as a result of their behavior. Expected outcomes rely on self-efficacy judgments (Smith & Liehr, 2014). Overall, it is anticipated that self-efficacy will have a positive impact on behavior (Smith & Liehr, 2014).

Bandura proposed that there are four informational sources that influence judgment about one's self-efficacy: enactive attainment, which is the performance of the behavior; vicarious experience or seeing other people perform the behavior; verbal persuasion, or encouragement; and physiological state or physiological feedback while performing a behavior (Smith & Liehr, 2014). The intervention that was provided in this project sought to improve lifestyle behaviors



that pertain to managing HTN. Since increased self-efficacy can improve behaviors, verbal persuasion was used to improve self-efficacy. Participants in this project received verbal persuasion and written persuasion (i.e., a brochure) at the initial education session and verbal persuasion during the bi-weekly phone calls. Additionally, enactive attainment was used to strengthen self-efficacy. Participants were asked to participate in certain behaviors that were measured by the HBP SCP Behavior scale. When compared to informational sources, enactive attainment typically results in a greater strengthening of self-efficacy expectations (Smith & Liehr, 2014).

### **Summary**

HTN is a serious disease that affects millions of people in the United States, and is more prevalent among AAs (Still et al., 2015). Therefore, it is important that innovative ways to combat HTN in AAs is made a priority. Implementing CAHE can be a step in the right direction in effectively managing HTN in AAs. Based on the evidence found in review of the literature, some conclusions may be drawn. Individuals of African descent with HTN who receive culturally appropriate hypertension education (CAHE) have been shown to report more self-efficacy and have an improvement in lifestyle behaviors (Meinema, et al., 2015; Migneault et al., 2012). Additionally, participants in the study completed by Meinema et al. (2015) who received CAHE also reported a better understanding of hypertension. Therefore, providing CAHE has been shown to improve lifestyle behaviors and therefore improve health outcomes in AAs with HTN.

Furthermore, race-concordance between AAs and providers has been shown to increase patient satisfaction, improve adherence to the plan of care, and result in longer visits (Abel & Barksdale, 2012; Cooper et al., 2003). Therefore, providing CAHE by a provider of the same

race can help AAs with improving their lifestyle behaviors and improve blood pressure outcomes.

### **SECTION THREE: METHODOLOGY**

#### **Design**

This project was an evidenced-based project and was conducted utilizing the Iowa model as a guide. For this project, a matched sample was used with pre and post intervention data collection. A quasi-experimental design was used to conduct this project.

A pre-education and post-education questionnaire was utilized in addition to a pre and post measurement of blood pressure. The pre and post questionnaire were focused on the participant's lifestyle behaviors. The questionnaire that was utilized for the pre and post-intervention was the High Blood Pressure Self Care Profile (HBP SCP) Behavior Scale. Furthermore, participant's blood pressures were obtained and recorded. Next, the culturally specific education plan for AAs was given that focused on diet, exercise, medication adherence, and stress reduction techniques. After eight weeks, participants returned to the project leader and had their blood pressures retaken and the completed the HBP SCP Behavior Scale.

#### **Measurable outcomes**

**Difference in pre and post intervention systolic blood pressure.** The first measurable outcome for this project was the difference between pre and post intervention systolic blood pressure (SBP). SBP was measured before the intervention was completed and again eight weeks following the initial intervention. The difference in pre intervention and post intervention SBP was then analyzed.

**Difference in pre and post intervention diastolic blood pressure.** The second measurable outcome for this project was the difference between pre and post-intervention

systolic blood pressure (DBP). DBP was measured before the intervention was completed and again eight weeks following the initial intervention. The difference in pre intervention and post intervention DBP was then analyzed.

**Difference in high blood pressure self care profile behavior scale.** The third measurable outcome for this project was the score on the HBP SCP Behavior Scale. The HBP SCP Behavior scale was administered to participants prior to the intervention and then again nine weeks following the initial intervention. The difference in pre intervention and post intervention HBP SCP Behavior Scale results was analyzed.

### **Setting**

This project took place at a church where there is access to the AA community in North Carolina. A letter of support was obtained from the organization's leader (see Appendix C). The church where the project took place is located in a suburban community. There are approximately 150 members who are residential members of the church. Furthermore, approximately 80% of the church members are AA.

### **Population**

Purposive sampling was utilized to recruit participants for this project. The sample included participants who: self-reported being AA, could speak, read, and write in English, were 18 years of age or older, had a telephone that could receive calls, and had a diagnosis of HTN (which is defined as a systolic blood pressure greater than 130mmHg or a diastolic blood pressure greater than 80mmHg;Whelton et al., 2017). Individuals were excluded from this project if they were unable to read or write in English, did not have a telephone, or had been diagnosed with secondary HTN. Those aforementioned individuals were excluded from the project because participants in this project had to give informed consent and be able to read,

understand, and answer the HBP SCP Behavior Scale. Furthermore, individuals with secondary HTN have an underlying cause for their HTN and therefore, including them in this project may have interfered with the validity, as it is unlikely that secondary hypertension can be improved without treating the underlying cause (Buttaro, Trybulski, J., Polgar-Bailey, P., & Sandberg-Cook, 2017). The target sample size was 30 individuals. However, due to attrition, the final sample size was 20.

### **Ethical considerations**

Protecting human subjects was a priority while completing this scholarly project. This project leader completed research ethics training to ensure protection of human subjects. A copy of the project leader's Collaborative Institutional Training Initiative (CITI) certificate may be viewed in Appendix B. Moreover, the project leader received approval from Liberty University's Institutional Review Board (IRB) prior to beginning the scholarly project (see Appendix F). All potential subjects were informed so they could have an understanding of the nature of the project and could knowledgeably and voluntarily choose whether they wanted to participate in the project or not (Mate & Foreman, 2014). All participants had to sign the informed consent prior to participating in the project.

### **Data collection**

Participant demographic information were collected as follows: age, sex, race, education level, whether the participant had health insurance, and whether the participant was on blood pressure medication or not. Next, the project leader measured all participants' blood pressures in the setting. After the participants' blood pressures were obtained, participants filled out a HBP SCP Behavior scale. Once the participant completed the HBP SCP behavior scale, the project leader gave the participants culturally appropriate hypertension education (CAHE). The

participants were then encouraged to adhere to recommendations provided in the education session for eight weeks and then return to the setting during the ninth week for a follow up HBP SCP Behavior Scale score and blood pressure measurement. All participants received a bi-weekly phone call (phone call every other week) to reinforce the education given and to motivate them to continue to follow the education plan.

### **Tools**

The phenomena of interest in this project were measured with the HBP SCP behavior scale. Permission was granted to utilize the HBP SCP behavior scale (see Appendix D). The HBP SCP-Behavior scale was created by researchers Han, Lee, Commodore-Mensah, and Kim (2014) along with the HBP SCP motivation scale and HBP SCP self-efficacy scale. These scales can be used independently or concurrently (Han, Lee, Commodore-Mensah, & Kim, 2014). For this scholarly project, only the HBP SCP-Behavior scale was utilized. The HBP SCP scale is a 20 item questionnaire that focuses on behaviors pertaining to diet, exercise, medication adherence, and is answered on a four point Likert scale with 1 being rarely/never, 2 being sometimes, 3 being frequently, and 4 being always (Han, Lee, Commodore-Mensah, & Kim, 2014). For questions C15 and C16 participants were asked to select rarely/ever if they did not take blood pressure medications. The HBP SCP-Behavior tool has been found to be valid and reliable tool.

Reliability was estimated utilizing item analysis and Cronbach's alpha coefficients. Item-total correlations above 0.15 and alpha coefficients above 0.70 were deemed acceptable (Han, Lee, Commodore-Mensah, & Kim, 2014). Validity was measured by examining the pattern of inter-correlations among the HBP SCP-behavior, Hill-Bone Adherence Scale, and Morisky Medication Scale-8. Pearson's correlation coefficients of HBP SCP-Behavior with existing HBP

self-care instruments were moderately strong which indicates concurrent validity (Han, Lee, Commodore-Mensah, & Kim, 2014). Additionally, the HBP SCP-Behavior tool was utilized in a sample of American inner-city residents with HTN and proven to be reliable and valid (Han, Lee, Commodore-Mensah, & Kim, 2014). Furthermore, the HBP-SCP-Behavior tool was utilized in Chinese patients at a clinic in Singapore and was proven to have good face validity (Ngoh, Lim, Koh, & Tan, 2017). The HBP SCP-Behavior tool was administered to participants prior to the education session and then eight weeks post-intervention.

**Recruitment.** The project leader recruited patients within the church and community. Potential participants were informed that this culturally appropriate education plan may help them meet their blood pressure goals and may assist healthcare providers in developing future effective interventions to treat AA individuals with HTN. Participants were made aware that the only risk to participation would be a breach in confidentiality if data is lost or stolen. Participants were also informed that data was going to be stored on a secure laptop that only the project leader has access to and that the laptop is secured with a password and secured in a locked cabinet file. Participants were recruited with flyers that were approved by Liberty University's IRB (Appendix G) and word of mouth within the organization. Participants who were interested were asked to contact the project leader to be screened to see if they met the aforementioned inclusion criteria.

### **Intervention**

The intervention for this project was a comprehensive, culturally-appropriate education plan that focused on diet, exercise, stress relief, and weight loss specifically for AAs. Approval was granted from the Institutional Review Board (IRB) at Liberty University. Once IRB approval was received, the project leader began recruitment utilizing the approved recruitment

material (see Appendix G). The project leader explained the project process and the intervention to the participants (i.e., blood pressure measurement, HBP SCP Behavior scale administration, education session, bi-weekly phone calls to check on progress and answer questions for the next eight weeks from the project leader to inquire about progress, reiterate education points, and to answer questions, and then a follow-up blood pressure measurement and post intervention HBP SCP Behavior scale. Individuals who desired to participate in the project, signed informed consent. Demographic data regarding age, sex, health insurance, education level, and if participants were on blood pressure medications were collected. The project leader measured each participant's blood pressure using a manual blood pressure cuff. Once the blood pressure reading was obtained, the project leader had the participant complete the HBP SCP Behavior scale and the education was administered to the participant. Several groups of participants completed this entire process, at various times until all 20 participants had completed all of the steps. The education session was designed utilizing the Center for Disease Control's Clear Communication Index and the Federal Plain Language Guidelines to increase clarity and aid in the understanding of the content (CDC, 2016; Plainlanguage.gov, n.d.). The education presentation took approximately 45-60 minutes. The participants were encouraged to follow the dietary recommendations, physical activity recommendations, engage in the stress reduction techniques, and if applicable adhere to their blood pressure medication regimen. Participants were also made aware that they were to return eight weeks post-intervention (week nine) for their follow up. Participants received a biweekly phone call from the project leader to inquire about their progress and to provide encouragement. At the follow up assessment session, the project leader measured participants' blood pressures and then administered the HBP-SCP-Behavior questionnaire.

In the event that a participant's blood pressure was greater than 140/90 (stage 2 HTN), the participant was advised to follow up with their primary care provider (Whelton et al., 2018). If the participant's systolic blood pressure was greater than or equal to 180 and/or the diastolic blood pressure was greater than or equal to 120, with no symptoms of target organ damage (hypertensive urgency), the participant was advised to immediately proceed to their primary care provider's office or urgent care for management (Whelton et al., 2017). If the participant was unable to drive to the nearest emergency room, the project leader asked if the participant would like emergency services called. In the event that the patient's systolic blood pressure was greater than or equal to 180 and/or the diastolic blood pressure was greater than or equal to 120 with symptoms of target organ damage (hypertensive emergency), the participant was advised to go to the emergency room via emergency services (Whelton et al., 2017). If the participant declined, s/he was advised to follow up with a primary care provider or urgent care facility as soon as possible. If participants were symptomatic (e.g. chest pain, shortness of breath, etc.) regardless of the blood pressure reading, the project leader asked if the patient would like emergency services called. If the participant declined, the participant was advised to go to the nearest urgent care facility or emergency room as soon as possible.

In-person counseling to improve adherence to diet and exercise requires time and is labor-intensive and costly (Friedberg et al., 2015). Therefore, for this project, participants received one in-person education session. Telephone counseling offers a promising alternate approach (Friedberg et al., 2015). Participants received supplemental bi-weekly phone calls to reiterate the education points outlined in the in-person education session and to motivate participants until the ninth week follow up meeting. Furthermore, a brochure summarizing the information provided in the education session was given to participants. Comprehension



increases when handouts are given as references after visits (Buttaro et al., 2017). Evidence shows that lifestyle changes can produce a significant effect on the reduction in blood pressure even in a relatively short period of time (Nakagawa, & Miura, 2004). Nakagawa, & Miura (2004) found that individuals with HTN who followed the dietary approaches to stop hypertension (DASH) diet and reduced their sodium intake for a period of four weeks, lowered their systolic blood pressure by 11.5 mmHg. Moreover, physical activity has been shown repeatedly in clinical trials to lower blood pressure (Whelton et al., 2017). Interestingly, individuals with HTN elicit post exercise hypotension which is characterized by a reduction in blood pressure after a single exercise session (Santos et al., 2016). Thus, this project leader surmised that instituting the recommendations proposed in the intervention for this project could reduce blood pressure in participants within eight weeks.

**Feasibility analysis.** It was feasible that this scholarly project was completed at a church. The resources required for this scholarly project included the area where the blood pressures were obtained, the space where participants could complete their HBP-SCP-Behavior Scale, and the area where participants could be educated. In addition, a manual blood pressure cuff, a stethoscope, paper for the printed education handouts, and a phone to make the bi-weekly phone calls were necessary. This scholarly project did not require financial assistance. Some benefits of this project include: (a) more AA individuals possibly meeting their blood pressure goals, (b) having a decrease in negative consequences of uncontrolled HTN, (c) an increase in healthy lifestyle behaviors among hypertensive AA patients, and (d) the identification of behaviors in AAs that hinder the management of their HTN. Some potential barriers to this scholarly project included participant attrition, participant unwillingness to participate in the study, and changes in the participants' lifestyles during the eight week intervention.

**Data analysis**

**Measurable outcome 1.** The difference in SBP following intervention (pre intervention SBP – post intervention SBP) was the first measurable outcome. The SBP obtained prior to the education intervention and SBP obtained post education intervention were compared \utilizing the paired *t*-test. Furthermore, utilizing logistic regression, all the categorical variables (age group, sex, use of blood pressure medications, and education level) were combined to see how they all worked together to predict a change in SBP. The objective was to see whether the SBP reduction was clinically relevant or if the categorical variables were associated with a change in SBP. Lastly, a Pearson correlation test was completed to determine a correlation between age and SBP difference and DBP difference respectively, as well as to determine if there was a correlation between SBP difference and DBP difference. A statistician collaborated with the project leader to analyze the data.

**Measurable outcome 2.** The difference in DBP following intervention (pre intervention DBP –post intervention DBP) was the second measurable outcome. The DBP obtained prior to the education intervention and DBP obtained post education intervention were compared utilizing the paired *t*-test to see if a significant difference occurred. Furthermore, utilizing logistic regression, all the categorical variables were combined to see how they all worked together to predict a change in DBP. The objective was to see whether the DBP reduction was clinically relevant or if the categorical variables could predict a change in DBP.

**Measurable outcome 3.** HBP SCP-Behavior scale score was the third measurable outcome. The pre and post-intervention scores were analyzed utilizing the paired *t*-test to determine if there was a significant improvement in the scores following intervention. The Chi-square test of independence was used to determine the presence or absence of an association

between change in the HBP SCP Behavior Scale score and each of the categorical variables (age group, sex, use of blood pressure medication, and education level). Next, all the categorical variables were combined to see how they all worked together to predict a change in behavior score by using multiple logistic regression. Lastly, a Pearson correlation test was completed to determine if there were any statistically significant correlations between a difference in HBP SCP Behavior Scale scores and SBP difference or DBP difference.

### SECTION FOUR: RESULTS

#### Descriptive statistics

The sample for this project was 35% male and 65% female (N =20, female =13, male = 7). The age of participants ranged from 40-77 years, with a mean (*M*) = 62.2 and a standard deviation (*SD*) = of 9.35 years. Table 1 provides details of other participant characteristics.

Table 1: Participant Characteristics

| Characteristic                        | Frequency | Percent |
|---------------------------------------|-----------|---------|
| <b>Age Group (years)</b>              |           |         |
| <50                                   | 2         | 10      |
| 50-59                                 | 5         | 25      |
| 60-69                                 | 9         | 45      |
| 70-79                                 | 4         | 20      |
| <b>Health Insurance Status</b>        |           |         |
| Has insurance                         | 20        | 100     |
| No insurance                          | 0         | 0       |
| <b>Blood Pressure Medication</b>      |           |         |
| Use blood pressure medications        | 16        | 80      |
| Do not use blood pressure medications | 4         | 20      |
| <b>Education Level</b>                |           |         |
| High school diploma                   | 1         | 5       |
| Some college education                | 3         | 15      |
| Associate's degree                    | 7         | 35      |
| Undergraduate degree                  | 6         | 30      |

|                                  |    |    |
|----------------------------------|----|----|
| <b>Graduate degree</b>           | 1  | 5  |
| <b>Other education</b>           | 2  | 10 |
|                                  |    |    |
| <b>Fortnightly Phone Calls</b>   |    |    |
| <i>Week 2</i>                    |    |    |
| <b>Answered phone call</b>       | 13 | 65 |
| <b>Did not answer phone call</b> | 7  | 35 |
|                                  |    |    |
| <i>Week 4</i>                    |    |    |
| <b>Answered phone call</b>       | 9  | 45 |
| <b>Did not answer phone call</b> | 11 | 55 |
|                                  |    |    |
| <i>Week 6</i>                    |    |    |
| <b>Answered phone call</b>       | 9  | 45 |
| <b>Did not answer phone call</b> | 11 | 55 |

North Carolina, April-June 2019 (n = 20)

### Measurable outcomes

**Difference in SBP.** The post-intervention difference in SBP following intervention (i.e., pre-intervention SBP – post-intervention SBP) was the first measurable outcome, with,  $M = 7.3\text{mmHg}$ ,  $SD = 12.20\text{ mmHg}$ . The minimum difference in SBP was  $-22\text{ mmHg}$  and the maximum difference was  $28\text{ mmHg}$ , with a range of  $50\text{ mmHg}$ . This implies that the highest rise in SBP following intervention was  $22\text{ mmHg}$ , while the highest drop in SBP following intervention was  $28\text{ mmHg}$ . SBP was significantly lower post intervention when compared to the pre-intervention SBP:  $t(19) = 2.68$ ,  $p < 0.015$ . Linear regression analysis was completed to assess whether the difference in SBP following intervention could be predicted by each participant's age, sex, use of blood pressure medication, response to phone calls, and education level; however, no statistically significant relationship was observed. Pearson correlation tests were completed to determine a correlation between SBP difference and age, between DBP difference and age, and between SBP difference and DBP difference. However, findings indicated that there was no statistically significant correlation between any of these variables.

The difference in SBP following intervention was subsequently categorized into two possible outcomes: “decrease” or “no change or increase”. Overall, 15 participants (75%) showed a decrease in SBP versus five participants (15%) who showed no change or an increase in SBP (Figure 2).

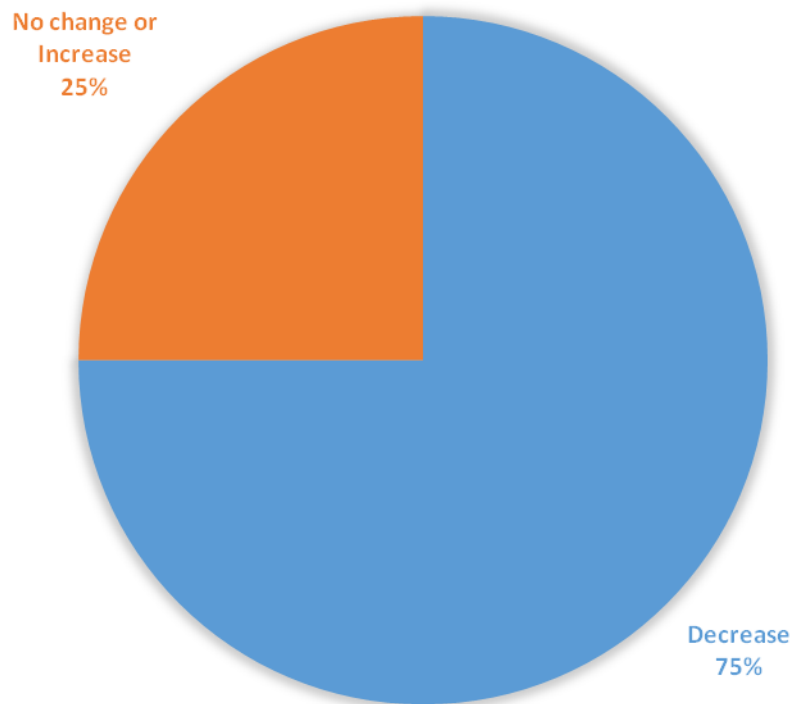


Figure 2: Change in Systolic Blood Pressure (SBP) Following Intervention, North Carolina, April-June 2019 (N = 20)

Out of the 13 female participants, nine had a reduction in SBP (69.2%) versus six out of the seven male participants (85.7%). Of the 16 individuals who used blood pressure medication, 11 showed a decrease in SBP (68.8%). All 4 of the participants who did not use blood pressure medication showed a decrease in SBP, representing one-fifth (20%) of the entire sample. Chi-square test of independence and logistic regression analysis were completed and neither showed

a statistically significant relationship between SBP change and other categorical variables (i.e., answered phone calls, sex, age group, education level, or the use of blood pressure medication).

**Difference in DBP.** The difference in DBP following post-intervention (i.e., pre intervention DBP – post intervention DBP) was the second measurable outcome, with,  $M = 1.4$  mmHg,  $SD = 2.07$  mmHg. The minimum difference in the DBP was  $-20$  mmHg and the maximum difference was  $16$  mmHg; thus, yielding a range of  $36$  mmHg. This implies that the highest rise in DBP following intervention was  $20$  mmHg, while the highest drop in DBP following intervention was  $16$  mmHg. DBP was not significantly lower post intervention when compared to the pre-intervention DBP:  $t(19) = 0.69, p > 0.05$ . Linear regression analysis was completed to assess whether the difference in DBP following intervention could be predicted by each participant's age, sex, use of blood pressure medication, response to phone calls, and education level; however, no statistically significant relationship was observed.

Categorization of the difference in DBP following intervention into two possible outcomes – “decrease” or “no change or increase” – showed that  $11$  participants ( $55\%$ ) had an overall decrease in post-intervention DBP, while  $9$  ( $45\%$ ) experienced either no change or an increase in DBP (see Figure 3).

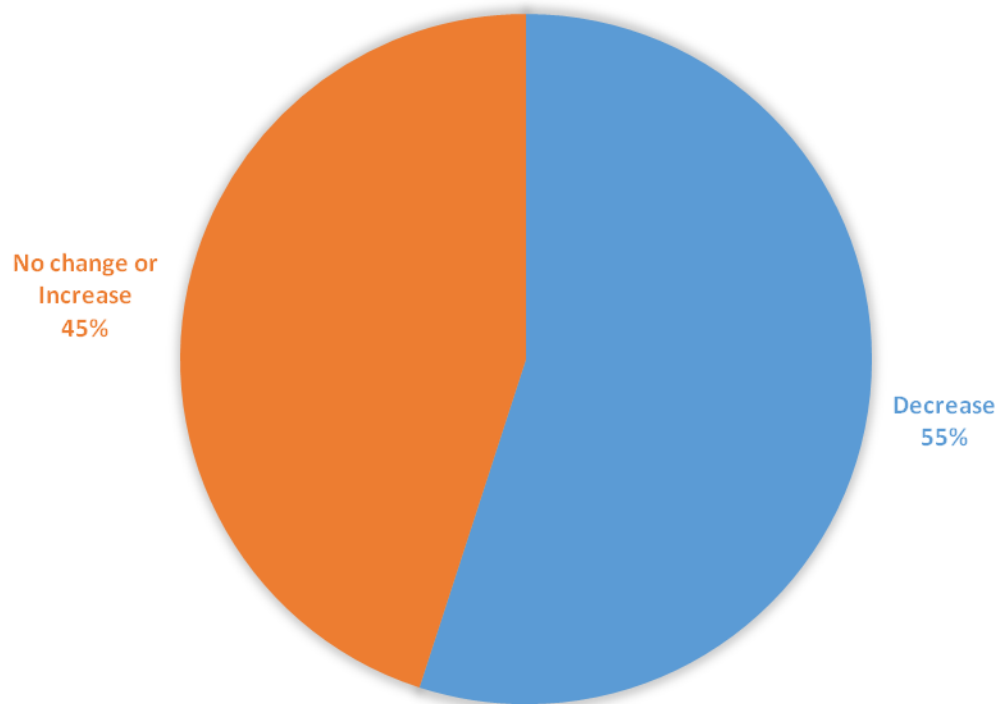


Figure 3: Change in Diastolic Blood Pressure (DBP) Following Intervention, North Carolina, April-June 2019 (N = 20)

Of the 13 females in the sample, six (46.2%) vs. 5 out of 7 males (71.4%) had a decrease in DBP. Of the 16 participants who used blood pressure medication, nine participants (56.3%) had a decrease in DBP. Of the four participants who did not use medication, two participants (50%) showed a decrease in DBP and 2 participants (50%) showed an increase or no change in DBP. Chi-square test of independence and logistic regression were completed and neither showed a statistically significant relationship between DBP change and other categorical variables (i.e., answered phone calls, sex, age group, education level, or the use of blood pressure medication). Likewise, Chi-square test of independence did not show statistically significant evidence to determine whether DBP change varied by SBP change.

**HBP SCP Behavior Score.** The difference in HBP SCP Behavior scale score following intervention (i.e., pre intervention HBP SCP Behavior scale score – post intervention HBP SCP Behavior scale score) was the third measurable outcome, with,  $M = 6.4$  points,  $SD = 6.63$  points. The minimum difference in HBP SCP Behavior scale score was -17 points and the maximum was 5 points; hence, the range was 22 points. This implies that the highest rise in HBP SCP Behavior scale score following intervention was 17 points, while the highest drop in HBP SCP Behavior scale score following intervention was 5 points. Post-intervention HBP SCP Behavior scale scores were significantly higher when compared to the pre-intervention HBP SCP Behavior scale scores  $t(19) = -4.32, p = 0.0004$ . Linear regression analysis was completed to assess whether the difference in HBP SCP Behavior scale score following intervention could be predicted by each participant's age, sex, use of blood pressure medication, response to phone calls, and education level. However, as experienced with the linear regression models for the difference in SBP and the difference in DBP, no statistically significant relationship was observed here. The difference in HBP SCP Behavior scale score following intervention was subsequently categorized into two possible outcomes: "increase" or "no change or decrease". Overall, 15 participants (75%) showed an increase in post-intervention HBP SCP Behavior scale score versus five participants (25%) who showed a decrease or no change in the post-intervention HBP SCP Behavior scale score (see Figure 4).



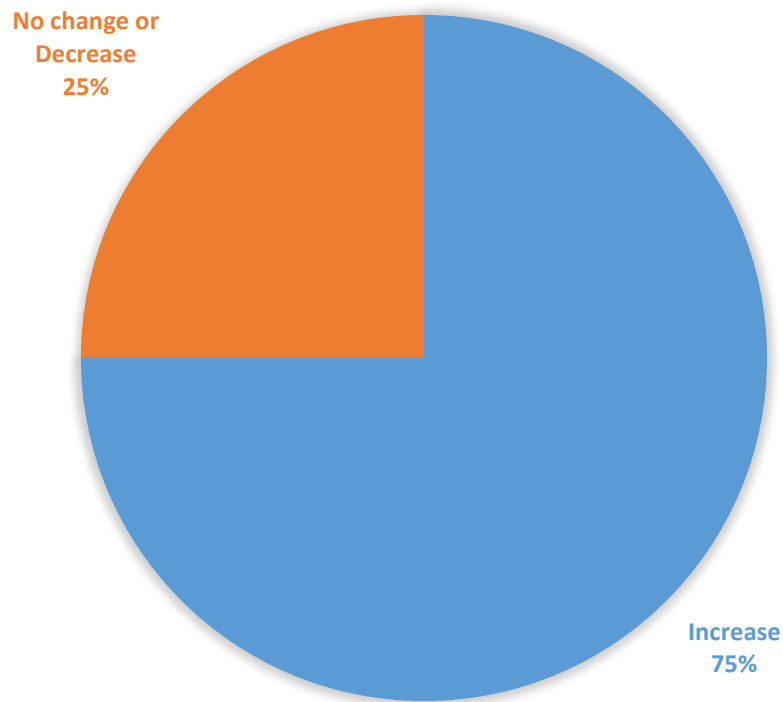


Figure 1: Change in HBP SCP Behavior Scale Score Following Intervention, North Carolina, April-June 2019 (N= 20)

Of the nine participants aged 60-69 years, six (66.7%) saw an increase in HBP SCP Behavior scale scores. All participants aged 70-79 years (comprising 20% of the entire sample) showed an increase in HBP SCP Behavior scale scores. Of the 15 participants who showed an increase in the HBP SCP Behavior scale score, 10 (66.7%) were 50% female and five (33.3%) were male. Twelve (80%) of the 15 participants who showed an increase in HBP SCP Behavior scale scores, used blood pressure medication while three (20%) did not use blood pressure medication. In addition, of the 15 participants who showed an increase in the HBP SCP Behavior scale score, one (6.7%) had a high school diploma, two (13.3%) had some college, five (33.3%) had a college degree, six (40%) had an undergraduate degree, and one (6.7%) had a graduate degree. Lastly, a Pearson correlation test was performed to assess whether there was a significant

correlation between difference in HBP SCP Behavior Scale score and SBP difference or DBP difference. Difference in HBP SCP Behavior scale score had a weak positive correlation with SBP difference, but this was not statistically significant ( $r = 0.196$ ;  $p > 0.05$ ). Conversely, difference in HBP SCP Behavior scale score showed a weak negative correlation with difference in DBP following intervention, but this also did not show statistical significance ( $r = -0.239$ ;  $p > 0.05$ ). Figures 5 and 6 illustrate the distribution of SBP difference and DBP difference respectively compared with HBP SCP Behavior Scale Score difference.

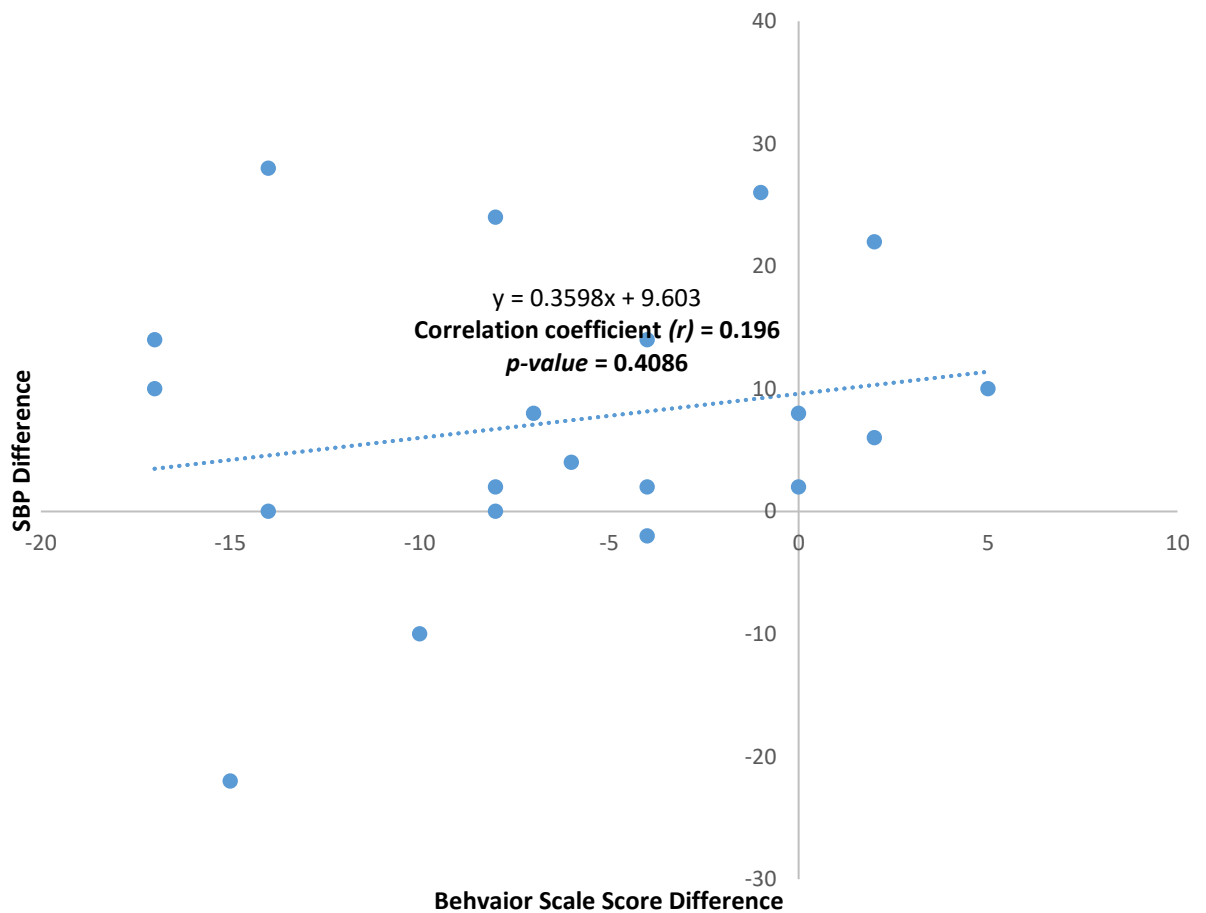


Figure 2: Scatter Plot of SBP Difference and HBP SCP Behavior Score Difference per Participant, North Carolina, April-June 2019 (N = 20)

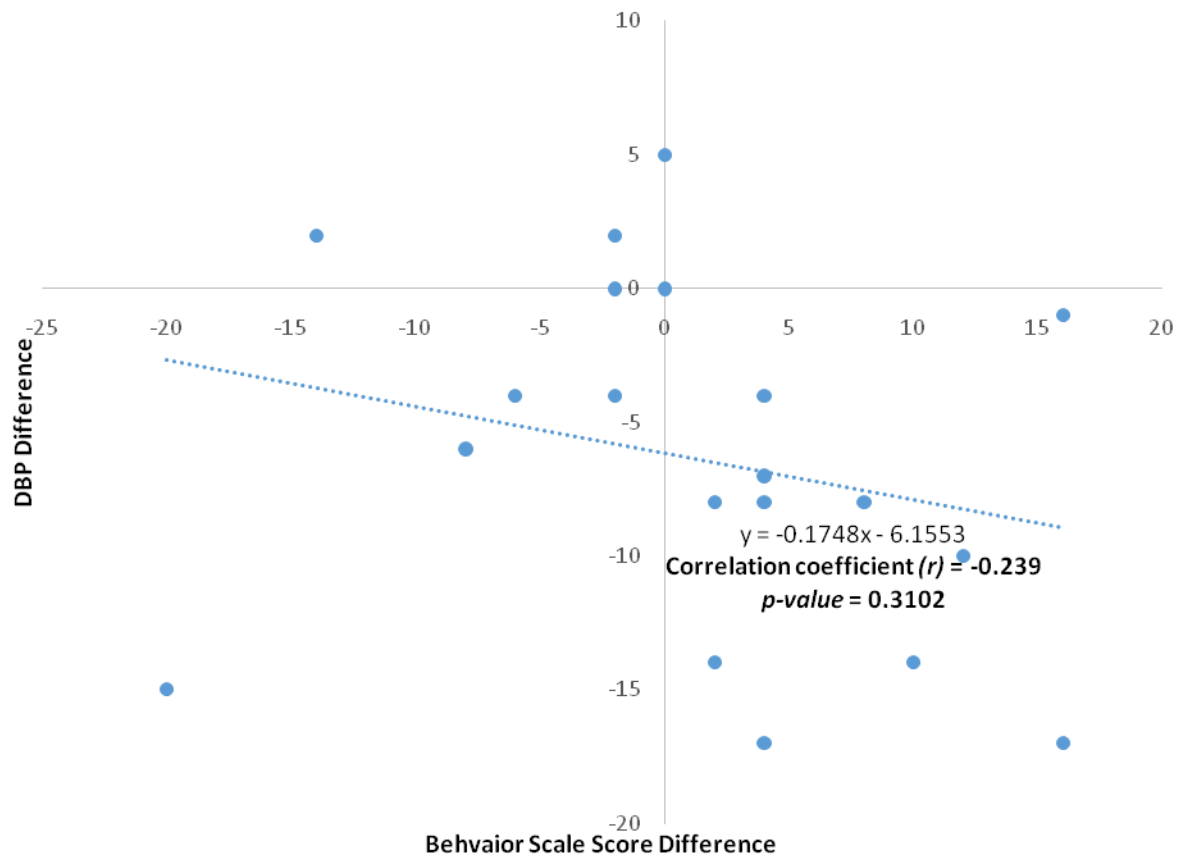


Figure 3: Scatter Plot of DBP Difference and HBP SCP Behavior Score Difference per Participant, North Carolina, April-June 2019 (N= 20)

## SECTION FIVE: DISCUSSION

### Implications for practice

The results of this project indicate that providing culturally appropriate education by a provider of the same race to AAs with HTN can lead to a reduction in SBP and an increase in healthy lifestyle behaviors. Overall, 75% of participants in this project showed decrease in SBP. Moreover, approximately two-thirds (10; 66.7%) of the 15 participants who experienced a decrease in SBP following intervention also showed an increase in HBP SCP Behavior Scale score following intervention. Similarly, all 11 participants (100%) who experienced a decrease in DBP following intervention also showed an increase in HBP SCP Behavior scale score. In a

clinic or inpatient setting, time constraints often hinder or limit time for education. In the community setting, typically there are less time constraints which allots more time for education. Moreover, AA churches are an important channel for the delivery of health promotion programs given their history of volunteerism and belief in the association between mind, body, and spirit (Lancaster et al., 2014). Therefore, future projects need to focus on providing education within the community to improve health outcomes and to assist in the development of new interventions aimed at managing HTN in AAs. Additionally, the success of this project can present the church with other opportunities to educate its members and members of the community on other health topics. Lastly, this project can lead to more healthcare providers utilizing culturally appropriate education in practice. The cultural makeup of society continues to change and grow more diverse. It is important for healthcare providers to equip themselves with the skills to provide culturally appropriate care (Brock, Fowler, Freeman, Richardson, & Barnes, 2019). Findings of this project indicate that providing culturally appropriate education by a provider of the same race to AAs with HTN can improve health outcomes (i.e., SBP and lifestyle behaviors).

Several dilemmas ethnic minority patients report in the healthcare system are a lower level of involvement in their care, a lower level of trust in their providers, and less satisfaction with their care overall when compared with white patients (Dang, Westbrook, Njue, & Giordano, 2017). Therefore, healthcare providers need to utilize resources and interventions that build trust and demonstrate cultural competence. Healthcare providers should focus on building collaboration within the community.

Healthcare providers should seek ways to build collaboration in the community such as partnering with a local organization or a church. Local organizations and churches have established rapport with members of the community that can be beneficial to the healthcare

provider desiring to build trust. Furthermore, healthcare providers may want to incorporate the use of a facilitator to assist with health promotion and education in the AA community. A facilitator should be an individual who is familiar with the target patient's culture and preferably someone of the same race. This facilitator can help bridge the communication gap between providers and patients. Secondly, the healthcare provider must have knowledge of available community resources. Knowing the community and where to refer patients can assist in provider-patient trust building and rapport building. Lastly, healthcare providers must know the culture and history of the patients they take care of. Understanding their culture and letting patients know they understand their culture can make patients feel comfortable and respected. Moreover, it enables the provider to understand the common practices, barriers, and beliefs that affect the patient's health practices and outcomes.

### **Limitations and Biases**

This project had some limitations and biases. The sample size for the project was small which resulted in a low statistical power for the study. Therefore, none of the logistic regression, linear regression, or Chi-square tests showed a statistically significant relationship between the variables. Additionally, the sample was composed of mostly educated AAs who all had health insurance. Nevertheless, AAs with HTN who do not have health insurance and/or who are not formally educated may not have the same outcomes. Thus, the results of this project are not generalizable. Participants were recruited from the church, community, and workplace of the project leader which can be viewed as a bias. Participants may have self-reported healthier lifestyle behaviors to not disappoint the project leader. Moreover, participant's responses to the HBP SCP Behavior Scale were subject to self-report bias. Post-intervention, participants may have reported healthier lifestyle behaviors as they knew they were being evaluated on their

behaviors; therefore, HBP SCP Behavior Scale scores may not be as high as reported by participants. Lastly, participants may have had extenuating circumstances such as medication changes or additions, major life events, etc. that contributed to their SBP or DBP changes; therefore, SBP or DBP may not have been solely attributed to the implementation of lifestyle changes.

### **Sustainability**

This practice change has potential for sustainability. The implementation of the practice change is feasible and requires little cost and resources. The organization would need a healthcare provider to do the teaching. The church does have several members who are healthcare providers. Healthcare providers would have to devote personal and unpaid time to sustain the practice change, which may be a hindrance to its sustainability. The organization is open to incorporating the change and believes that the topic and educating members of the community is a priority. The results of the project show that the intervention can improve health outcomes in AAs with HTN and hence this project leader recommends that this practice change be implemented within the organization and other potential organizations.

There were several lessons learned during the implementation and evaluation of the project. Participants in the project were eager to share their personal experiences and struggles with their HTN and lifestyle behaviors during the education intervention. Therefore, time should be allotted in any future education sessions for participants to share their personal experiences. Additionally, some participants did not consistently answer the phone on a bi-weekly basis. Going forward, reminders should be sent out via text and/or email that participants should be expecting a follow-up phone call.

### **Dissemination plan**

The project leader will reach out to the organization's leader where the project was completed to discuss further projects and education sessions in the community. The project leader will also reach out to other local community organizations to disseminate the findings of the project and to discuss future project opportunities. Additionally, a manuscript of this project has been written and will be sent to professional nursing journals for possible publication. A poster presentation was created with plans to be presented at the project leader's university and at other regional and national conferences. Furthermore, this project leader has the goal of presenting her findings attempt to do several podium presentations at regional and national conferences.

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**Appendix A Table of Reviewed Literature**

| Article Title, Author, etc.  | Study Purpose  | Sample Demographics   | Methods   | Study Results   | Level of Evidence (Melnyk)       | Study Limitations   | Would Use as Evidence to Support a Change?  |
|--|--|---|---|---|----------------------------------|---|---|
| <p>Flynn, S. J., Ameling, J. M., Hill-Briggs, F., Wolff, J. L., Bone, L. R., Levine, D. M., . . . Boulware, L. E. (2013). Facilitators and barriers to hypertension self-management in urban african americans: Perspectives of patients and family members. <i>Patient Preference and Adherence</i>, 7, 741-749. doi:10.2147/PPA.S46517</p> | <p>Identifying patients' and their family members' perceived facilitators and barriers to hypertension (HTN) self-management in African Americans (AAs).</p> | <p>30 AAs (18 patients with HTN and 12 family members) in an urban community-based clinic in Baltimore, Maryland.</p>         | <p>Non-experimental survey to assess participants' perceptions regarding patient, family, clinic, and community-level factors influencing patients' effective hypertension self-management.</p> | <p>Findings indicated that several facilitators and barriers influenced their hypertension self-management.</p>                     | <p>Level 6 qualitative study</p> | <p>Conducted in only one clinic in an urban community.</p>                      | <p>Yes. This article does identify good facilitators and barriers within the AA community that affect how patients manage their HTN.</p>                  |
| <p>Meinema, J. G., van Dijk, N., Beune, Erik J. A. J, Jaarsma, Debbie A. D. C, van Weert, Henk C. P. M, &amp; Haafkens, J. A. (2015). Determinants of adherence to treatment in hypertensive patients of african descent and the role of culturally appropriate education. <i>Plos One</i>, 10(8), e0133560.</p>                             | <p>To identify patient-reported determinants of medication and lifestyle adherence in hypertensive (b/p &gt;140/90)</p>                                      | <p>139 African Surinamese and Ghanaian patients with bp &gt;140/90 who previously completed the CAHE study. The data from</p> | <p>Non-experimental qualitative study. At the start of the intervention (prior to CAHE intervention) and after 6</p>  | <p>Patients who showed a higher level of medication self-efficacy after six months were more likely to report an improvement in</p> | <p>Level III</p>                 | <p>Data was collected on individuals from African descent outside of the US</p> | <p>Yes, this study shows that CAHE positively impacts people of African descent and have higher levels of self-efficacy are more compliant with their</p> |



| Article Title, Author, etc.  | Study Purpose  | Sample Demographics  | Methods  | Study Results   | Level of Evidence (Melnyk) | Study Limitations                                     | Would Use as Evidence to Support a Change?                    |
|--|--|--|--|---|----------------------------|---|---|
| doi:10.1371/journal.pone.0133560   | African Surinamese and Ghanaian patient’s living in the Netherlands and how culturally appropriate hypertension education (CAHE) influenced those determinants | that study was analyzed. The average age of the patients was 53.9±9.8 years, and 47.5% were male | months, BP and other physiological measures were assessed and information on self-reported adherence to lifestyle and medication and patient-related determinants of adherence (perception on medication and hypertension, self-efficacy, social support, satisfaction with care) was collected through validated questionnaires | adherence to medication than those who did not, older patients were more likely to show an improvement in medication adherence than younger patients, and patients who were concerned about their medication use at baseline were less likely to report medication adherence. Additionally, patients who had received CAHE reported a better understanding of hypertension. |                            |   | medications.  |
| Petthey, C. M., McSweeney, J. C., Stewart, K. E., Cleves, M. A., Price, E. T., Heo, S., & Souder, E. (2016). African americans’ perceptions of | Purpose of study was to examine AAs’   | 29 total participants. Participants had to: identify   | Purposive sampling to recruit southern AA aged 21  | 26 participants identified the Southern AA diet as a major  | Level VI qualitative study | Participants in the study were of a low socioeconomic | Yes. This study highlights the cultural-specific factors that |

| Article Title, Author, etc.  | Study Purpose   | Sample Demographics  | Methods  | Study Results   | Level of Evidence (Melnyk) | Study Limitations   | Would Use as Evidence to Support a Change?  |
|--|---|--|--|---|----------------------------|---|---|
| adherence to medications and lifestyle changes prescribed to treat hypertension. <i>SAGE Open</i> , 6(1), 215824401562359. doi:10.1177/2158244015623595  | perceptions of adherence to medications and lifestyle changes prescribed to treat HTN.                                | as AA by self-report, (b) be treated with medications for HTN for at least 6 consecutive months, (c) 21 to 64 years of age, and (d) currently being treated at the clinic. | and older with HTN. Interviews were conducted to ascertain perceptions related to adherence to treatment of HTN            | cause of HTN. Many participants discussed unhealthy actions as a cause for their HTN, including drinking alcoholic beverages, not following God’s plan, and using illicit drugs |                            | status and were all from the same free clinic. Author of study was also not from the same cultural group as the participants. | contribute to HTN and uncontrolled HTN in AAs.  |
| Nasser, S. A., & Ferdinand, K. C. (2018). Community outreach to african-americans: Implementations for controlling hypertension. <i>Current Hypertension Reports</i> , 20(4), 1-9. doi:10.1007/s11906-018-0834-6 | To examine the impact and effectiveness of community interventions for controlling hypertension in African-Americans. | AA with HTN  | Systematic review of Community outreach hypertensive programs effectiveness in lowering blood pressure in hypertensive AA. | Present evidence and guideline recommendation s encourage team-based approaches to lead to more comprehensive HTN control if adopted in a more widespread manner.               | Level V systematic review  | The clinical evidence supporting the efficacy of community outreach hypertensive programs is limited.                         | Yes, this article highlights the significance of outreach programs and how that can help control and manage HTN in AAs. |
| Bolin, L. P., Crane, P. B., Powell, J. R., Horne, C. E., & Floegel, T. A. (2018). Factors associated with physical activity in african americans with hypertension. <i>Applied Nursing</i>                       | To scrutinize factors associated with physical activity (PA)  | 77 AAs aged 55-84  | A cross-sectional descriptive correlational design   | All eight variables (systolic BP, number of co-morbidities,   | Level VI                   | Convenience sampling was used, physical activity was assessed using   | Yes, this article emphasizes the factors that contribute to less PA adherence in  |

| Article Title, Author, etc.   | Study Purpose  | Sample Demographics  | Methods  | Study Results  | Level of Evidence (Melnik) | Study Limitations  | Would Use as Evidence to Support a Change?  |
|---|--|----------------------|--|--|----------------------------|--|---|
| <i>Research</i> , 41, 62-67.<br>doi:10.1016/j.apnr.2018.04.003  | adherence in AAs with hypertension and antihypertensive medication adherence   |                      |  | serum levels of creatinine and potassium, education, depression, LOC [Internal], and social support) and explained 28% of the variance in PA participation. creatinine, depression, and social support were significant. |                            | a self-report tool which is subject to bias.   | hypertensive AA.  |
| Heady, C., & Huntley, M. (2013). Barriers to health promotion in African American men with hypertension. <i>American Journal of Health Studies</i> , 28(1), 21. | To discuss barriers to health promotion and the use of the health belief model's role in health promotion among AA men with HTN. | AAs                  | Systematic review of descriptive and qualitative studies | AAs have multiple barriers that contribute to HTN such as stress (as a result of racism), low socioeconomic status, lack of understanding of the seriousness of HTN, and fear of impotence (in AA men).                  | Level V                    | Many of the articles that were reviewed did not pertain demographic information of the individuals in the study (age, sex, etc.) | Yes. This article identified multiple barriers to health promotion in AAs and AA men. |
| Long, E., Ponder, M., & Bernard, S. (2017). Knowledge, attitudes, and   | To investigate   | 34 AA men ages 40-65 | In-person focus groups were                              | Barriers to self-management of   | Level VI                   | Only AA men of a certain   | Yes. Public health practitioners and  |

| Article Title, Author, etc.   | Study Purpose   | Sample Demographics                               | Methods   | Study Results  | Level of Evidence (Melnik) | Study Limitations  | Would Use as Evidence to Support a Change?  |
|---|---|---|---|--|----------------------------|--|---|
| <p>beliefs related to hypertension and hyperlipidemia self-management among african-american men living in the southeastern united states. <i>Patient Education and Counseling</i>, 100(5), 1000-1006. doi:10.1016/j.pec.2016.12.011</p>  | <p>the knowledge, attitudes, and beliefs pertaining to HTN and hyperlipidemia (HLD) management among AA men.</p>        | <p>living in Southeastern USA</p>                 | <p>conducted using semi-structured interview questions informed by the Health Belief Model (HBM).</p>                                     | <p>HTN included medication side effects and unhealthy dietary patterns. Facilitators included social support, encouraging healthcare experiences, and the value placed on family. Cultural implications stressed the importance of food in daily life and social settings.</p> |                            | <p>age and living in a certain location were included in this study.</p>                 | <p>healthcare providers who care for AA men should address cultural factors and ideas of masculinity which can impede effective disease management among this population.</p> |
| <p>Meinema, J. G., Haafkens, J. A., Jaarsma, Debbie A. D. C, van Weert, Henk C. P. M, &amp;van Dijk, N. (2017). Development and evaluation of a culturally appropriate hypertension education (CAHE) training program for health care providers. <i>Plos One</i>, 12(6), e0178468. doi:10.1371/journal.pone.0178468</p> | <p>Development and evaluation of a training program for primary care nurse practitioners (PCNPs) aimed at providing</p> | <p>87 Experienced PCNPs and PCNPs in training</p> | <p>Prospective cohort study evaluating attitude and intended behavioral changes. The effects of the cultural appropriate hypertension</p> | <p>Non-significant but positive changes in attitude were observed. PCNPs who reported on the implementation of their intended behavior change showed</p>   | <p>Level VI</p>            | <p>Study was conducted outside of the US so results may not be applicable to the US.</p> | <p>Yes. This article shows that teaching providers about CAHE can help influence their attitude towards culturally appropriate care.</p>                                      |

| Article Title, Author, etc.   | Study Purpose   | Sample Demographics  | Methods   | Study Results  | Level of Evidence (Melnyk) | Study Limitations  | Would Use as Evidence to Support a Change?   |
|---|---|--|---|--|----------------------------|--|--|
|   | culturally appropriate hypertension patient education to individuals of African descent.  |  | education (CAHE) training were measured by 3 different questionnaires on 1) the satisfaction with the training program, 2) the attitude towards culturally appropriate care, and 3) the commitment to change. | significant attitude changes after three months.   |                            |  |  |
| Beune, Erik J. A. J, Moll van Charante, Eric P, Beem, L., Mohrs, J., Agyemang, C. O., Ogedegbe, G., & Haafkens, J. A. (2014). Culturally adapted hypertension education (CAHE) to improve blood pressure control and treatment adherence in patients of african origin with uncontrolled hypertension: Cluster-randomized trial. Plos One, 9(3), e90103. doi:10.1371/journal.pone.0090103 | To evaluate the outcome of a practice-based, culturally appropriate patient education intervention on blood pressure (BP) and treatment adherence among | 146 patients who identified as Surinmese or Ghanaian, aged 20 or older, being treated for HTN, and SBP> 140mmHg. | Cluster randomized trial involving four Dutch primary care centers and 146 patients. All patients received the usual HTN care. The intervention-group was also offered three                                  | At six months, there was an observed SBP reduction of $\geq 10$ mmHg -primary outcome- in 48% of the intervention group and 43% of the control group. At six months, the mean SBP/DBD had dropped by | Level II                   | Data was limited to the ethnic minority patients of Surinamese and Ghanaian origin who receive care in four primary health clinics in one geographic area in the | Yes. This study shows that CAHE can improve blood pressure in people of African descent. |

| Article Title, Author, etc.  | Study Purpose   | Sample Demographics                              | Methods  | Study Results  | Level of Evidence (Melnik) | Study Limitations   | Would Use as Evidence to Support a Change?  |
|--|---|--|--|--|----------------------------|---|---|
|  | patients of African origin with uncontrolled hypertension.  |  | nurse-led, culturally appropriate hypertension education sessions. | 10/5.7 (SD 14.3/9.2)mmHg in the intervention group and by 6.3/1.7 (SD 13.4/8.6)mmHg in the control group   |                            | Netherlands. Therefore, the applicability of this study is limited. Additionally, patients knew their BP was being measured which may have contributed to the improvement in SBP.             |   |
| Butler, M. J., Tanner, R. M., Muntner, P., Shimbo, D., Bress, A. P., Shallcross, A. J., . . . Spruill, T. M. (2017). Adherence to antihypertensive medications and associations with blood pressure among African Americans with hypertension in the Jackson heart study. <i>Journal of the American Society of Hypertension, 11(9)</i> , 581-588.e5. doi:10.1016/j.jash.2017.06.011 | To test the association between a self-report measure of 24-hour adherence to antihypertensive medication and blood pressure (BP) among | Hypertensive AAs living in the Jackson, MS area. | Prospective population-based cohort study of AA in Jackson, MS     | Between 25% and 30% of participants reported not taking their antihypertensive medication in the past 24 hours. Participants who were nonadherent in the past 24 hours had more classes of | Level IV                   | All self-report measures of nonadherence, including this 24-hour measure, likely underestimate nonadherence. Additionally, gold-standard methods for assessing nonadherence to antihypertensi | Yes, this article identifies important factors that contribute to medication nonadherence in AAs. |

| Article Title, Author, etc.  | Study Purpose   | Sample Demographics  | Methods   | Study Results   | Level of Evidence (Melnik) | Study Limitations  | Would Use as Evidence to Support a Change?  |
|--|---|--|---|---|----------------------------|--|---|
|  |   |  |   | antihypertensive medication prescribed, were more likely to take loop diuretics and angiotension receptor blockers, were older, were less likely to be smokers, had less education, were less likely to be employed, and were more likely to have diabetes. |                            | ve medication (eg, urinary metabolites, pharmacy refill records, electronic monitoring) were not used.                   |   |
| Khatib, R., Schwalm, J., Yusuf, S., Haynes, R. B., McKee, M., Khan, M., & Nieuwlaat, R. (2014). Patient and healthcare provider barriers to hypertension awareness, treatment and follow up: A systematic review and meta-analysis of qualitative and quantitative studies. <i>Plos One</i> , 9(1). doi:10.1371/journal.pone.0084238 | To analyze and gather information on important barriers to HTN control that patients and healthcare providers report. | Studies were identified by searching electronic databases, scanning reference lists of included articles and consultations with experts in the field | Systematic review of 25 qualitative and 44 quantitative studies | The most common barrier identified by healthcare providers was disagreement with clinical recommendations. Among patients, lack of knowledge was identified as the most common  | Level V evidence           | Methodological quality of both the quantitative and qualitative studies was modest. Surveys were infrequently validated. | Yes, this article highlighted important barriers patients reported in managing their HTN. |

| Article Title, Author, etc.   | Study Purpose  | Sample Demographics                      | Methods   | Study Results   | Level of Evidence (Melnik) | Study Limitations  | Would Use as Evidence to Support a Change?   |
|---|--|--|---|---|----------------------------|--|--|
|   |  |  |   | barrier to HTN awareness. Stress, anxiety, and depression were reported by patients as common reasons why they delayed adopting a healthier lifestyle.                        |                            |  |  |
| Baker, E., Barnidge, E., Schootman, M., Sawicki, M., & Motton-Kershaw, F. L.(2016). Adaptation of a modified DASH diet to a rural african american community setting. <i>American Journal of Preventive Medicine, 51</i> (6), 967-974. doi:10.1016/j.amepre.2016.07.014 | To incorporate the dietary approaches to stop hypertension (DASH) in an African-American rural setting | AA men and women aged 18 years and older | A quasi-experimental cross-sectional design with a comparison county to evaluate the intervention. Men on the move: Growing Community (MOMTGC) used a community-based participatory approach to educate the community on healthier food | Higher educational attainment noted in post survey when compared to a comparison county, significant decline in obesity in the intervention county, and significant reduction | Level III                  | A cross sectional design was used over a longitudinal and therefore did not follow the same individuals. | Yes, this article highlighted the significant impact using a community-based approach can have on individuals. |



| Article Title, Author, etc.  | Study Purpose   | Sample Demographics   | Methods  | Study Results  | Level of Evidence (Melnik) | Study Limitations   | Would Use as Evidence to Support a Change?  |
|--|---|---|--|--|----------------------------|---|---|
|  |   |   | choices and grow produce to distribute to regional farmers market, as well as to local convenience stores, restaurants, and community-based organizations. |  |                            |   |   |
| Hicken, M. T., Lee, H., Morenoff, J., House, J. S., & Williams, D. R. (2014). Racial/ethnic disparities in hypertension prevalence: Reconsidering the role of chronic stress. <i>American Journal of Public Health, 104</i> (1), 117-123. doi:10.2105/AJPH.2013.301395 | To assess anticipatory stress, also known as racism-related vigilance, and hypertension prevalence in Black, Hispanic, and White adults | 3105 adults 18 years and older living in Chicago, Illinois from 2001-2003     | Cross sectional survey   | Blacks showed the highest vigilance levels. Additionally, in Blacks, each unit increase of vigilance was associated with a 4% increase in the odds of HTN. | Level VI                   | Sample was from a single city. Data is also cross sectional so affects of vigilance on HTN were not determined. | Yes. This article brings awareness to how vigilance affects AA patients and how education regarding stress reduction is important in the AA population in managing HTN. |
| Pickett, S., Allen, W., Franklin, M., & Peters, R. M. (2014). Illness beliefs in african americans with hypertension. <i>Western Journal of Nursing Research, 36</i> (2), 152-170. doi:10.1177/0193945913491837  | To examine the relationship between hypertension beliefs and  | 111 community dwelling AAs ages 18-65 years with a self-reported diagnosis of | Subjects completed the revised Illness Perception Questionnaire BP Self-Care   | Causal attributions for hypertension were not significantly different by age,  | Level VI                   | The study design was cross-sectional which limits the ability to show causal                                    | Yes, this study identified the various beliefs AAs have regarding their HTN.  |

| Article Title, Author, etc.  | Study Purpose  | Sample Demographics   | Methods   | Study Results  | Level of Evidence (Melnik) | Study Limitations   | Would Use as Evidence to Support a Change?   |
|--|--|---|---|--|----------------------------|---|--|
|  | self-care behaviors necessary for blood pressure (BP) control in AA with HTN.                        | HTN, no dementia, no other psychiatric disorders, no drug use, and able to read/write in English. | Scale, and demographic data sheet, and their BP was measured by the research team.  | income, or length of time with a diagnosis of hypertension. Participants who thought stress or external factors resulted in hypertension were less likely to engage in healthy self-care behaviors |                            | relationships. Additionally, the majority of the sample was low-income AAs. |  |
| Mansur, C. L., Pavlik, V. N., Hyman, D. J., Taylor, W. C., & Goodrick, G. K. (2013). Self-efficacy and barriers to multiple behavior change in low-income African Americans with hypertension. <i>Journal of Behavioral Medicine, 36</i> (1), 75-85. doi:10.1007/s10865-012-9403-7 | To explore the relationships between self-efficacy, barriers, and multiple behavior change over time | 185 low income hypertensive AAs undergoing a behavior trial from 2002-2006                        | Results from the parent study were utilized (Multiple Behavior Adherence Trial) where the intervention group received culturally-tailored education packets and telephone counseling over an 18 month period. | Higher reported self-efficacy was helpful in reducing smoking and increasing physical activity but not for limiting sodium intake. Barriers to managing HTN included: being too busy,              | Level VI                   | Some patients were counseled more often than others in-between visits.      | Yes. This article discovered that focusing on self-efficacy alone may not be helpful in overcoming the most prominent barriers encountered by AAs. |
| Cooper, L. A., Roter, D. L., Johnson,  | To compare   | 142 African   | Cohort method   | Race concordant  | Level IV                   | Confounding   | Yes, this article  |

| Article Title, Author, etc.   | Study Purpose   | Sample Demographics  | Methods   | Study Results  | Level of Evidence (Melnyk) | Study Limitations   | Would Use as Evidence to Support a Change?   |
|---|---|--|---|--|----------------------------|---|--|
| <p>R. L., Ford, D. E., Steinwachs, D. M., &amp; Powe, N. R. (2003). Patient-centered communication, ratings of care, and concordance of patient and physician race. <i>Annals of Internal Medicine</i>, 139(11), 907. doi:10.7326/0003-4819-139-11-200312020-00009</p>                                | <p>patient-physician communication during race-concordant visits and during race-discordant visits to determine if communication behaviors explain differences in patient satisfactory ratings and participatory decision making.</p> | <p>American patients and 110 white patients who received care from 31 physicians (18 African American, 19 white) from 16 urban primary care practices.</p> | <p>was utilized with follow up using pre-visit and post-visit surveys and audio</p> | <p>visits were longer and had higher ratings of patient positive affect when compared to race discordant visits. Furthermore, patients in race concordant visits were more satisfied and rated their physicians as more participatory.</p> |                            | <p>variables such as clinical site factors, whether patients chose or were assigned to their physicians, and patient familiarity with their physicians.</p> | <p>shows that race-concordance improves patient satisfaction and the visits are longer. Therefore, AA patients may be receiving more culturally sensitive care when seen by a provider of the same race. Culturally sensitive care can improve patient outcomes.</p> |
| <p>Abel, W., &amp; Barksdale, D. (2012). Freedom of choice and adherence to the health regimen for African Americans with hypertension. <i>Advances in Nursing Science</i>, 35(4), E1–E8. <a href="https://doi.org/10.1097/ANS.0b013e31826b842f">https://doi.org/10.1097/ANS.0b013e31826b842f</a></p> | <p>To discuss the theory of psychological reactance as a framework for understanding the relationship between</p>   | <p>N/A</p>   |   | <p>Utilizing the theory of psychological reactance can assist healthcare providers in determining if a patient is reactant and facilitate</p>  | <p>VII</p>                 | <p>Theory was not tested on participants.</p>   | <p>Yes. Utilizing the theory of psychological reactance to explain noncompliance in African Americans can assist healthcare providers in</p>   |

| Article Title, Author, etc. | Study Purpose  | Sample Demographics | Methods | Study Results  | Level of Evidence (Melnik) | Study Limitations | Would Use as Evidence to Support a Change?                                     |
|-----------------------------|--|---------------------|---------|--|----------------------------|-------------------|--|
|                             | freedom of choice and adherence to hypertension regimens in African Americans. |                     |         | opportunities for healthcare providers to allow the patient to make choices. |                            |                   | effectively delivering information and education to African American patients. |

**Appendix B CITI Certificate**



Completion Date 05-Sep-2018  
Expiration Date 04-Sep-2021  
Record ID 21135917

This is to certify that:

**Kristina Jones**

Has completed the following CITI Program course:

**Biomedical Research - Basic/Refresher** (Curriculum Group)  
**Biomedical & Health Science Researchers** (Course Learner Group)  
**1 - Basic Course** (Stage)

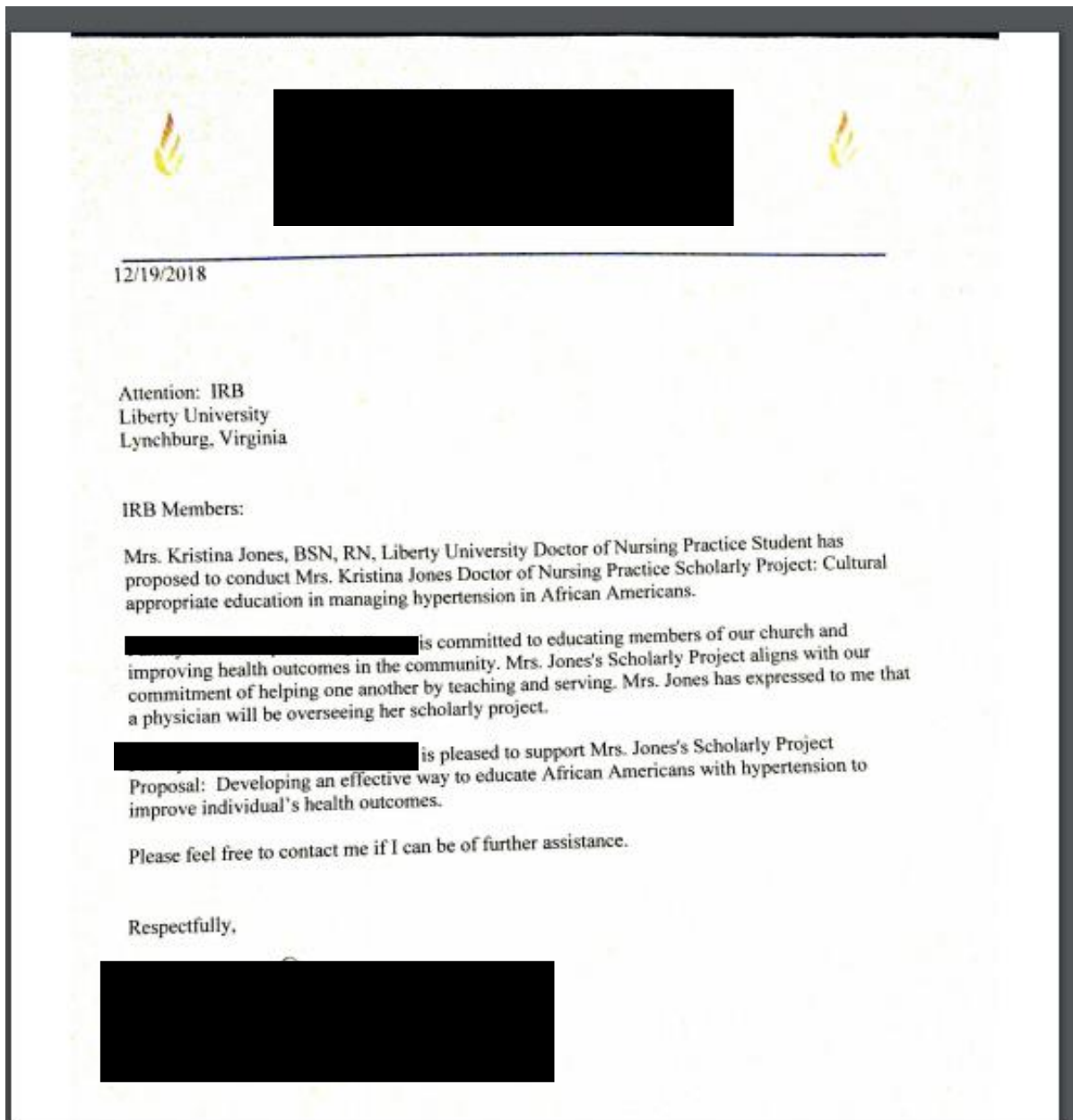
Under requirements set by:

**Liberty University**



Verify at [www.citiprogram.org/verify/?w52bf6ec0-fe6f-4b27-87b9-d4062aef496d-21135917](http://www.citiprogram.org/verify/?w52bf6ec0-fe6f-4b27-87b9-d4062aef496d-21135917)

### Appendix C Letter of Support from Organization



**Appendix D Permission to Use Tool**



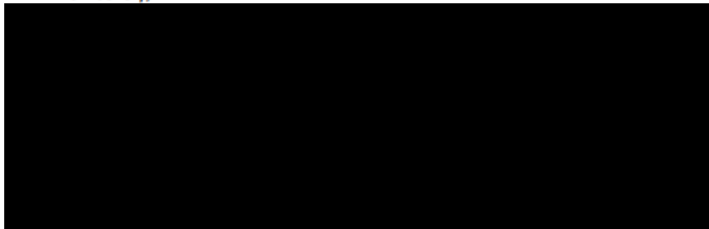
January 22, 2019

RE: Permission to use Hypertension Self-Care Profile

To Whom It May Concern:

I am writing to give my permission for Kristina Jones BSN, RN to use the Hypertension Self Care Profile (HBP SCP) scale. Per her email, I understand that she is a DNP/FNP nursing student at Liberty University. In her email, Ms. Jones indicated that she will use the scale pre-intervention and post-intervention to see if her cultural appropriate education increases the positive behaviors and decreases the negative behaviors in the scale for hypertensive African Americans. As the lead developer of this validated instrument, I find her DNP project closely aligns with one of the main goals for my research team to develop the instrument, that is to assess changes in HBP self-care behavior, self-efficacy, and motivation among individuals with HBP. I wish her success in her project.

Sincerely,



### Appendix E Permission to use Iowa Model

The screenshot shows an Outlook email interface. At the top, there is a dark blue header with icons for search, notifications, settings, and help, along with a user profile picture. Below the header, the email content is displayed. The sender is identified as Jones, Kristina. The email body contains a permission letter from the University of Iowa Hospitals and Clinics. The letter grants permission to review and/or reproduce 'The Iowa Model of Evidence-Based Practice to Promote Quality Care (Revised 1998)'. It includes a citation for the model and a request for a statement to be added to any written material. The footer of the email contains contact information for the UIHC Nursing Research and EBP team.

Tue 12/4/2018 4:38 PM  
To: Jones, Kristina

Inbox

Action Items

You have permission, as requested today, to review and/or reproduce *The Iowa Model of Evidence-Based Practice to Promote Quality Care (Revised 1998)*. Click the link below to open.

[The Iowa Model of Evidence-Based Practice to Promote Quality Care \(Revised 1998\)](#)

Copyright is retained by University of Iowa Hospitals and Clinics. **Permission is not granted for placing on the internet.**

**Citation:** Titler, M. G., Kleiber, C., Steelman, V. J., Rakel, B.A., Budreau, G., Everett, L. Q., ...Goode, C. J. (2001). The Iowa model of evidence-based practice to promote quality care. *Critical Care Nursing Clinics of North America*, 13(4), 497-509.

In written material, please add the following statement:  
*Used/reprinted with permission from the University of Iowa Hospitals and Clinics, copyright 1998. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at 319-384-9098.*

Please contact [UIHCNursingResearchandEBP@uiowa.edu](mailto:UIHCNursingResearchandEBP@uiowa.edu) or 319-384-9098

1 of 8



**Appendix F IRB Approval**

**LIBERTY UNIVERSITY**  
INSTITUTIONAL REVIEW BOARD

April 4, 2019

Kristina Jones  
IRB Approval [REDACTED] Cultural Appropriate Education in Managing Hypertension in African Americans

Dear Kristina Jones,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. [45 CFR 46.101\(b\)\(2\)](#) and (b)(3). This listing refers only to research that is not exempt.)

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

[REDACTED]

### Appendix G: Recruitment Letter

Date:

Dear church or community member,

As a graduate student in Doctor of Nursing Practice program at Liberty University, I am completing an evidenced based project as part of the requirements for a doctorate degree in nursing practice. The purpose of my project is to provide culturally appropriate education to African Americans with high blood pressure to assist in lowering their blood pressure and to improve their lifestyle behaviors that affect high blood pressure. I am writing to invite you to participate in my project!

If you are 18 years of age or older, identify as African American, can speak and write in English, have a telephone that can receive calls, and have a diagnosis of high blood pressure, you will be asked to have your blood pressure taken, fill out a questionnaire, listen to an educational presentation on high blood pressure [REDACTED] and follow up in 2 months (for a blood pressure recheck and to complete the questionnaire again). During those two months, I will be calling every other week to inquire about your progress and to motivate you! These calls will take approximately 10 minutes each. It should take approximately 90-120 minutes total for you to complete the procedures listed. Your name and other identifying information will be requested as part of your participation, but the information will remain confidential.

To participate please email me at [REDACTED] to verify that you: are 18 years of age or older, identify as African American, have a telephone that can receive calls, can speak and write in English, have a diagnosis of high blood pressure, and can participate in a diet and exercise program.

A consent document is attached to this flyer. The consent document contains additional information about my project. Please sign the consent document and bring it with you when you come to the education session.

**\*\*Refreshments will be served at the education session\***

Sincerely,  
Kristina Jones  
RN, BSN  
Family nurse practitioner/Doctor of nursing practice student

