

Summer 7-16-2023

## Faith and Information to Treat Hypertension

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DOI: <https://doi.org/10.46409/sr.LVQN2400>



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### Recommended Citation

Bell, T. (2023). *Faith and Information to Treat Hypertension*. [Doctoral project, University of St Augustine for Health Sciences]. SOAR @ USA: Student Scholarly Projects Collection. <https://doi.org/10.46409/sr.LVQN2400>

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**Faith and Information to Treat Hypertension**

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Date of Final Approval: July 16, 2023

DocuSign Envelope ID: E596F177-1212-49F6-B5C6-907DB94473FD

**University of St. Augustine for Health Sciences  
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### Abstract

**Practice Problem:** The prevalence of stroke and hypertension (HTN) in African Americans in the United States is among the highest in the world (American Heart Association, n.d.) with cultural norms as a contributing factor.

**PICOT:** The PICOT question that guided this project was in African American adults (>18 y/o) (P), how does a faith-based hypertension management program (I), compared to standard hypertension management (C), affect blood pressure measurements (O) within an 8-week timeframe (T)?

**Evidence:** The integration of motivational interviewing with therapeutic lifestyle changes along with HTN education using a community-based participatory approach delivered in the faith-based setting was an effective intervention to encourage positive health behavioral changes in African American adults.

**Intervention:** Culturally tailored approaches such as incorporating health-promoting interventions involving HTN story-sharing, bible verses focused on health, and cultivating a sense of community, in the faith-based setting, provided a framework that empowered participants to make positive health changes for effective HTN self-care management.

**Outcome:** Blood pressure measurements pre and post-implementation showed a drop in mean systolic blood pressure readings of 11.5 mmHg and a drop in diastolic blood pressure readings of 8.00 mmHg for the intervention group.

**Conclusion:** The FAITH (faith and information to treat hypertension) management program was implemented to address how the HTN and heart disease burden have disproportionately affected African American adults and the need to incorporate individualized, culturally tailored interventions through knowledge and resources to promote life-changing and sustainable practices for healthier living.

### **Faith and Information to Treat Hypertension**

In healthcare, one of the main strategies for disease management and prevention is to identify the obstacles which hinder its desired outcomes. The incorporation of interventions without consideration of cultural norms creates a cycle of temporary management rather than essential factors that could increase prevention. The prevalence of stroke and hypertension (HTN) in African Americans in the United States is among the highest in the world (American Heart Association [AHA], n.d.) with a need to identify cultural norms as a contributing factor. More than 40% of non-Hispanic African American men and women have a diagnosis of HTN which typically develops earlier in life and is more severe (AHA, n.d.). Cultural sensitivity can be an essential component in the prevention and management of HTN. In evaluating the effects of uncontrolled HTN and its long-term outcomes, greater attention should be given to culture, its importance, and its influences on health in African Americans. The purpose of this project was to evaluate the effectiveness of implementing a HTN management program delivered in the FBS to improve BP measurements in African American adults ( $\geq 18$  y/o).

### **Significance of the Practice Problem**

According to the World Health Organization (2021), an estimated 1.28 billion adults (30-79 y/o) worldwide have HTN with two-thirds living in low and middle-income countries. An estimated 46% are unaware they have HTN which results in premature death worldwide with a global target to reduce the prevalence by 33% between 2010 and 2030 (World Health Organization, 2021). HTN in African Americans represents a public health concern due to the racial health disparities they experience (Musemwa & Gadegbeku, 2017). In 2018, HTN was responsible for 9,249 deaths in non-Hispanic Black males and 8,546 deaths in non-Hispanic Black females, among all ages (Virani et al., 2021). In the same year, the HTN death rate for non-Hispanic Black males was 56.0 (per 100,000) and 37.5 (per 100,000) for females which exacerbates the racial divide.

Heredity accounts for 30-50% of HTN in African Americans in addition to biological, environmental, and social factors (Musemwa & Gadegbeku, 2017) which re-emphasizes the importance of culturally tailored interventions. Access to quality healthcare services, quality housing, environmental pollution, and the availability of nutritious foods are important determinants in the adequate management of HTN (Mensah, 2018). In the United States, racial residential segregation is considerable and may unfavorably affect cardiovascular disease outcomes through risk factors such as HTN (Mensah, 2018). Unsafe neighborhoods and increased neighborhood violence affect walkability, and access to green spaces for acquiring adequate physical activity which may prevent proper HTN management (Mensah, 2018).

Regionally, 10 of 13 states with the highest rate of HTN are in the South; Mississippi is the highest-ranked state with HTN in the United States at 43.6% (State of Childhood Obesity, n.d.). There continues to be greater health disparities, and a correlation between poor health outcomes due to limited knowledge, access, and preventative health benefits among residents in the state. More than 700,000 Mississippi adults have HTN with many more at considerable risk (Mississippi State Department of Health [MSDH], n.d.-a). According to the 2021 Annual Report, cardiovascular disease is one of Mississippi's selected public health indicators and the state is ranked 46 of 50 for cardiovascular disease mortality rate and self-reported fair or poor health status prevalence rate (MSDH, n.d.-b). When evaluating the leading causes of years of potential life lost before 75 years of age, heart disease ranked highest (60,000) over accidents, malignant neoplasms, Sars-Cov-2 (COVID-19), and homicide (MSDH, n.d.-b).

Many healthcare providers witness firsthand the challenges and disparities these individuals face, living with chronic diseases such as HTN, in primarily urban and rural communities. Patients with HTN incur \$1920 higher annual expenses, 2.5 times the inpatient cost, almost double the outpatient cost, and nearly triple the prescription medication expenditure compared to non-HTN patients (Kirkland et al., 2018). National medical costs associated with

HTN treatment and management account for around \$131 billion or over \$3 trillion (3%) of the U.S. national healthcare expenditures (Kirkland et al., 2018). HTN's total direct cost for 2016-2017 was \$52.4 billion and the projected total direct cost could reach \$220.9 billion by 2035 (America's Health Rankings, n.d.). The management and prevention of HTN have modifiable solutions once the accumulation of data and culturally tailored interventions are implemented for African Americans.

### **PICOT Question**

Efforts to reduce blood pressure (BP) levels through dietary measures have not been as successful in African Americans compared to other races, possibly from a lack of cultural sensitivity or tailoring and their reluctance to participate in medical research involving African Americans (Lynch et al., 2019). According to statistics collected from 2015-2018, African Americans have a disproportionately higher rate of HTN compared to Caucasians and Hispanics in males 20 years old and older at 56.8% and women of the same age category at 57.6% (Centers for Disease Control, n.d.). With such alarming statistics, culturally tailored interventions to address the gap in health disparities and improve HTN outcomes among African American adults are needed (Burton et al., 2017).

The church has often served as a vital entity for many African Americans and Lynch et al. (2019) suggest combining health interventions in this trusted setting as one way of incorporating a culturally tailored strategy. Many African American leaders expressed concerns about the health statuses among their congregants (Fruh, et al., 2018) which the church can serve as an ideal portal to invoke change. The use of a community based participatory approach (CBPA) implementing therapeutic lifestyle change (TLC) interventions plus motivation interviewing (MI) delivered by trained lay health providers (LHP), in the faith-based setting (FBS) produced greater BP reductions than health education interventions alone (Schoenthaler et al., 2018). Which posed the question, in African American adults ( $\geq 18$  y/o) (P), how does a faith-

based hypertension management program (I), compared to standard hypertension management (C), affect blood pressure measurements (O) within an 8-week timeframe (T)? The 8-week timeframe was selected to encourage habit formation. This timeframe was not too abbreviated which could risk quick and temporary changes resulting in a return to old patterns and behaviors. An 8-week timeframe allowed for initial adjustments, becoming comfortable with the FBS and health promotion education at a peak level while adjusting for any plateaus that occurred. During these pivotal intervals in the intervention, self-reflection and evaluation occurred.

### **Evidence-Based Practice Framework & Change Theory**

Evidence-based practice (EBP) is the standard for healthcare delivery and utilizing a clear and concise framework that guides its users through a systematic approach may facilitate greater EBP utilization in organizational and clinical settings. The Johns Hopkins evidence-based practice (JHEBP) framework is a 19-step process, guided by *inquiry, practice, and learning* which is composed of three elements involving a *practice problem* identification, appraisal and synthesis of *evidence* supporting a problem, and the *translation* of evidence into the planning, implementation, and evaluation of the identified problem (Dang & Dearholt, 2018). These elements are referred to as the PET (practice question, evidence, and translation) process of the JHEBP framework and were utilized to guide the faith and information to treat hypertension (FAITH) project as poor HTN management in African American adults is a well-documented problem. Through the comprehensive and rigorous evaluation of evidence supporting negative outcomes associated with poor HTN management, this evidence was translated for planning, implementing, and evaluating the FAITH project; and disseminating the results to key stakeholders.

Change is inevitable and often met with resistance but is a vital aspect of healthcare, essential for providing evidence-based care in the most effective, safe, and timely manner.



Kotter's 8 Steps for Leading Change is a nationally recognized framework for developing the language, skills, and tools for the effective implementation of organizational and system changes (Kotter, n.d.). This model is congruent with the steps outlined in the JHEBP framework, complimented the FAITH project, and was chosen as a comprehensive yet feasible approach for addressing uncontrolled HTN in African Americans. By *creating a sense of urgency* (high rate of HTN-associated morbidity & mortality), *building a guiding coalition* (stakeholders), *forming a strategic vision and initiative* (utilizing a FBS), enlisting a volunteer army (congregants and community health workers), *enabling action by removing barriers* (foster community), *generating short term wins* (celebrate small changes), *sustaining acceleration and instituting change* (inclusivity and respect), (Kotter, n.d.) a willingness to adapt more positive health behaviors was fostered and a blueprint for managing other chronic conditions was provided.

### **Evidence Search Strategy**

A systemic review of the literature was performed to gather information related to the identified question. An initial search was generated through Search USA, a tool of many databases and sources provided by the University of St. Augustine for Health Sciences' (USAHS) virtual library system. Steps to locate interventions consisted of selecting search modes to find all search terms, searching within the full text of the articles, and applying equivalent subjects related to cultural sensitivity in HTN management in African American adults. Keywords such as *faith-based settings*, *African Americans*, *Blacks*, *hypertension*, *hypertension management*, *blood pressure control*, and *cultural sensitivity* were applied. A combination of *African Americans*, *Black Americans*, and *Blacks* was used to identify the population. The results were narrowed by performing an advanced search utilizing a combination of the same keywords. Peer-reviewed, full-text publications and English language were entered as additional inclusion criteria. Exclusion criteria included interventions that focused on diabetes management, interventions involving yoga and mindfulness, and

participants under the age of 18 years old. Culturally tailored interventions were restricted to samples involving African Americans. CINAHL Complete is a database specific to the nursing and allied health fields, and search criteria included evidence-based practice, scholarly journals, male and female, and adults. Additional databases utilized to retrieve data were ProQuest and PubMed. To aid in the most specific evidence-based interventions, valuable evidence scouting the bibliographies of other articles provided evidence to further support the practice problem. Although some publications were outside of the specified date range of 2016 to 2022, their content provided support in emphasizing the extent to which HTN management in African Americans has been a concern in healthcare.

### **Evidence Search Results**

An extensive literature review revealed compelling evidence to support the use of FBS for African American adults to promote healthy behaviors that improve HTN to decrease its associated long-term complications. A total of 96 articles were identified as useful, in addition to 21 non-duplicate citations related to the search terms. After reviewing the titles and abstracts, eight articles were excluded. This resulted in 13 articles that were related to the PICOT question. The Google Scholar tool was used to retrieve full-text articles from databases. Browsing the content, seven articles were excluded. There were 17 articles resulting in a final review for grading the strength of the evidence.

The final research articles were assessed for quality and strength based on the JHEBP framework synthesis and recommendations tool used to guide the process of integrating pertinent findings (Dang & Dearholt, 2017). Seventeen articles were thoroughly reviewed. Five were identified as quantitative, two as qualitative, two as quasi-experimental, and one as a mixed method. Ten articles were preserved related to their quality grade and consistency of findings supporting a CBPA that utilized community health workers and FBS for improved self-care behaviors related to HTN management.

The PRISMA diagram (see Figure 1) illustrates the summary of search results. The design level of the Primary Research Evidence (see Appendix A) included two Level I articles, two Level II, and one Level III. The final selection of articles also included a Summary of Systematic Reviews (see Appendix B) with all three articles identified as Level I. Two of the articles were summarized as Nonresearch Evidence (see Appendix C) due to their lack of manipulation of an independent variable or based on comparisons of evidence. All were determined to have a quality grade of A or B. Evaluating the body of evidence for the identified PICOT question, the quality of evidence was sufficient to recommend implementing a faith-based management program through a CBPA. The articles emphasized the importance of social support and culturally tailored interventions that foster inclusivity and trust. The interventions included improved TLC such as healthier food options, increased physical activity, and greater medication adherence in African American adults.

### **Themes with Practice Recommendations**

The integration of MI with TLC along with HTN education delivered by LHP using a CBPA in the FBS has been shown as an effective intervention to encourage positive health behavioral changes in African American adults. Churches often serve as distribution centers for daily living essentials and are ideal for health-promotion activities and resources. The dominant themes of the evidence are compiled in the Synthesis of Evidence Themes (see Table 1).

### **Faith-Based Settings**

In a study by Schoenthaler et al. (2018), the notable struggle to make lasting changes in health behaviors was evident among participants, who could be seen asking God for assistance in areas beyond their control. The lifestyle interventions delivered in churches produced statistically significant reductions in systolic blood pressure (5.79 mmHg;  $p=0.029$ ) at 6 months with treatment effects continuing at 9 months (Schoenthaler et al., 2018) and a significant effect in self-reported leisure moderate to vigorous physical activity ( $d=0.18$ ,  $p=0.02$ ; Wilcox et al.,

(2013). A quasi-experimental study of a faith-based, self-care HTN program concluded a HTN management program delivered in a FBS can empower individuals to improve BP measurements (Alen et al., 2022). The dependence on faith and God as a source for desired outcomes further support the evidence for fundamental and sociocultural inclusion in quantitative designs that has been apparent in qualitative research (Schoenthaler et al., 2018).

### **Community-based Participatory Research**

Lynch et al. (2019) highlight a CBPA has the potential to increase member involvement and effective health-promoting behaviors improving daily vegetable consumption, overall diet quality, and weight and BP reduction. Their use of this approach was significant for weight loss (-1.0 kg;  $p < .001$ ), increased daily vegetable consumption ( $p < .001$ ) by one serving at the 9-month follow-up, decreased systolic (-391. mmHg;  $p = .002$ ) and diastolic BP (-2.18 mmHg,  $p = .001$ ; Lynch et al., 2019). The findings of two, Level I randomized control trials of high quality showed utilizing a CBPA to implement therapeutic lifestyle interventions improved systolic blood pressure (SBP) measurements (5.79 mmHg;  $p = 0.029$ ; Schoenthaler et al., 2018) and moderate to vigorous physical activity ( $d = 0.18$ ,  $p = 0.02$ ; Wilcox et al., 2013) in African American adults.

### **Lay Health Providers**

The use of LHP for African American adults with uncontrolled HTN yielded positive BP measurements (Schoenthaler et al., 2018). The trained LHP served as recruiters in their churches (Schoenthaler et al., 2018) which fostered trust and a sense of community. In one high-quality, Level I systematic review of LHP identified their areas of greatest service were in cancer prevention and cardiovascular disease reduction (Kim et al., 2016). With uncontrolled HTN as a major identified risk factor for cardiovascular disease, utilizing LHP in health promotion and disease reduction services is a feasible alternative to costly treatment options related to cardiovascular disease management. A systematic review revealed LHP as a cost-

effective and sustainable option in the delivery of healthcare and beneficial to underserved communities and racial and ethnic minorities (Kim et al., 2016).

### **Health Education and Knowledge**

Knowledge assessment provides a root cause analysis for effective interventions in chronic disease management. The hypertension self-care activity level effects (H-SCALE) tool established preliminary validity for assessing HTN self-care activities and their association with clinical BP (Warren-Findlow et al., 2013). Their assessment highlighted medication adherence significantly correlated with decreased SBP ( $r=0.19$ ,  $p<.05$ ) and weight management significantly correlated with decreased DBP ( $r=0.22$ ,  $p<.05$ ). Participants in the Alen et al. (2022) EBP project revealed diet and exercise as primary challenges to HTN control. The attainment of knowledge and increased awareness of effective HTN management resulted in decreased SBP, improved BP levels in the *normal* category, and a reduced number of participants with Stage 1 and 2 HTN post-intervention. Adequate HTN knowledge and self-care strategies significantly improved behavior, motivation, and self-efficacy scores.

### **Recommendation for Practice**

The strength of the evidence summary for a practice recommendation (see Table 2) illustrated that FBS are trusted environments, ideal for addressing chronic diseases and implementing culturally tailored HTN interventions for improved BP measurements [Levels I and II] (Burton et al., 2017; Schoenthaler et al., 2018; Sue et al., 2019; Wilcox et al., 2013). A CBPA addressed barriers utilizing LHP as a cost-effective option, offering social support through culturally tailored interventions to increase access to health-promotion resources; increase fruit and vegetable consumption, decrease BP measurements, and improve physical activity [Levels I, II, and III] (Brown et al., 2019; Burton et al., 2017; Lynch et al., 2019; Kim et al., 2016; Schoenthaler et al., 2018). Addressing participant perceptions related to their health and obtaining knowledge about HTN provided awareness of effective self-care practices to promote

adherence which aligned with decreased SBP [Levels I, II, IV, and V] (Alen et al., 2022; Brown et al., 2019; Buckley et al., 2016; Warren-Findlow et al., 2013).

Despite the high level of evidence noted, limitations involved high attrition rates possibly from the length and intensity of sessions and lack of monetary incentive (Brown et al., 2019; Schoenthaler et al., 2018; Wilcox et al., 2013), the COVID-19 pandemic or motivation affecting small sample sizes (Alen et al., 2022; Warren-Findlow et al., 2013), and predominantly female participants emphasizing the challenges with recruiting African American males (Schoenthaler et al., 2018; Warren-Findlow et al., 2013).

Based on the evidence, there was sufficient support to answer the identified PICOT question of implementing a faith-based HTN management program. Utilizing LHP, to deliver MI and TLC to improve BP outcomes in African American adults, within an 8-week timeframe is realistic and attainable. A combination of social support, HTN-specific education, and evidence-based TLC is a comprehensive approach to reaching the desired health outcomes in African Americans.

### **Setting, Stakeholders, and Systems Change**

#### **Setting**

The scholarly project was implemented in a predominantly African American faith-based organization (FBO) located in Jackson, MS. The 34-year-old organization employs 5 staff members and is home to more than 100 congregants. Its sanctuary is where all sessions took place.

#### **Organization Mission and Vision**

Although the setting of the scholarly project was within the FBO, the project was in affiliation with a Mississippi public health entity whose mission is to improve the health of Mississippians through community partnerships and activities. The public health affiliate is dedicated to identifying effective strategies to increase preventative health measures focused

on community health, chronic disease, maternal and child health, and public and behavioral health practices (Mississippi Public Health Institute [MSPHI], n.d.). The public health affiliate's goals align with the Centers for Disease Control's REACH (racial and ethnic approaches to community health) efforts to collaborate with programs that find inventive ways which solve health issues and promote health and active living in Mississippians. Providing essential self-care tools for individuals with a strong root in FBOs can foster healthy nutrition, sleep, and physical habits.

### **The Strengths, Weaknesses, Opportunities, and Threats Analysis**

A SWOT (strengths, weaknesses, opportunities, and threats) analysis is often used as an integral part of strategic planning which helps project managers fill knowledge gaps that can improve critical decision-making (Benzaghta et al., 2021). A SWOT analysis (see Appendix D) was conducted to assess the FBO's current strengths and weaknesses as well as the opportunities and threats before the project implementation to minimize the likelihood of nonsuccess.

### **Organizational Support**

Support for implementing the FAITH project was confirmed by the FBO leadership and public health affiliate. The FAITH project aligned with the organization's desire to improve the health of its congregants through comprehensive yet simple strategies specific to African Americans with a diagnosis of HTN with self-care measures aimed at decreasing long-term complications.

### **Stakeholders**

The stakeholders for the project included the interprofessional collaboration of the public health affiliate's chief executive officer and chief financial officer, its program officer, coalition manager, researcher/evaluator for the REACH program, the FBO leadership, the project

participants (congregants) and the appointed lay health providers to ensure smooth implementation.

### **Systems Change**

The practice recommendation, in alignment with the organization's goals and objectives, can invoke systems change at all (micro, meso, and macro) levels by fostering feelings of "community" within African American communities. On a micro level, congregants adopted effective self-management behaviors such as medication adherence, increased physical activity, and increased nutrient-dense food options. On a meso level, the FBO's leadership was receptive to fostering sustained change through written healthy options guidelines that support healthier options during church functions. The macro level included community-wide outreach programs such as walk-a-thons or culturally tailored recipe ideas. Health fairs that offer health education classes aimed at lifestyle changes and story-sharing from previous participants will foster sustainability, accountability, and conventional HTN management strategies often difficult to achieve and maintain with African Americans. The project was a pilot study that was conducted in the parent church of a three-church association. The program will be disseminated to the other churches and implemented by the trained LHP upon completion of the pilot study. The participants host a Praise and Pressure social with BP and weight screenings and a brief report of the triumphs and trials of HTN self-management post-implementation. The socials provide community support and foster confidence as well as accountability and sustainability for the previous participants.

### **Implementation Plan with Timeline and Budget**

#### **Project Objectives**

The project's purpose was to determine if implementing an HTN management program in a FBS would reduce BP measurements in African American adults. The project aligned with the organization's mission of improving the health of Mississippians through the development of



partnerships committed to program innovation, increased health resources, education, health awareness, and applied research and policy (MSPHI, n.d.). To accomplish the goal of the project of initiating an evidence-based HTN management program, the following objectives were created:

1. Within 2 weeks post-EBP committee approval, recruitment among individuals diagnosed with HTN to complete the FAITH program.
2. Within 4 weeks of program completion, data analysis and dissemination of results shared with stakeholders to support applied research.
3. Within 8 weeks of implementing the FAITH project, increased community health resources as evidenced by 10% of participants volunteering to become trained lay health providers.
4. Within 8 weeks of the FAITH program implementation, increased community and interprofessional team collaboration as evidenced by members of the interprofessional team suggesting at least three ideas for community involvement projects.

### **Project Manager Role**

A well-rounded project manager (PM) is the cornerstone for project success. Kogon et al. (2015) identified four foundational behaviors that a successful PM exemplifies which include demonstrating respect, listening first, clarifying expectations, and practicing accountability. As the subject matter expert, the Doctor of Nursing Practice (DNP) student was the PM exemplifying the identified behaviors along with critical thinking and conflict management to foster a successful project.

### **EBP and Change Model**

The HTN management program in the FBS was guided by Dang and Dearholt's (2018) JHEBP framework. JHEBP's PET process directed the identification of the challenges and unsuccessful management of HTN in African American adults. The development of the EBP

question guided the evaluation and summary of the evidence, which recommended effective HTN management changes based on the synthesis of evidence to be translated into practice (Dang & Dearholt, 2018).

Kotter's 8-Step Process for Leading Change facilitated the successful implementation of the project. A *sense of urgency* in step one was created by highlighting the high rate of HTN-associated morbidity and mortality in African Americans in the United States with a need to address the underlying causes through strategic and effective measures for improving outcomes. The organization's program officer, the FBO leadership, lay health providers, and other interprofessional team members who championed change were the *guiding coalition* of step two. The *strategic vision* of step three was formed by utilizing a FBS to improve health equity and reduce health disparities through the *initiative* to incorporate culturally tailored measures (Lynch et al., 2019). The *volunteer army* of step four consisted of community health workers, congregants, and other members deeply concerned with the well-being of the participants and who were eager to assist. *Enabling action by removing barriers* identified in step five was accomplished by realizing the church fosters feelings of "community" for African Americans. This was supported in the research of Bokhour et al. (2016) who found that emotional engagement and the intention to change behaviors resulted from viewing real HTN patient stories. Therefore, a combination of storytelling and open discussions related to challenges was facilitated by the PM to minimize apprehension. For step six, *short-term wins* were created by sharing a positive change through an interactive ACT (awareness, change, and testimony) journal prompt implemented from the prior session. Participants' discussions of their "ah-ha" moments at each session fostered continuous self-reflection, confidence, and participation. Step seven, *sustain acceleration*, was achieved through the combination of social interaction and evidence-based TLC. Schoenthaler et al. (2018) highlighted incorporating faith and faith-based settings to *sustain acceleration* to reach the desired health outcomes in African

Americans. When African Americans perceive they are understood, it may invoke feelings of respect and inclusivity, and therefore *change was initiated* in step eight by adopting more positive health behaviors such as nutrition-dense food options, increased physical activity, and weight reduction. The success of the project to reduce BP measures using a CBPA in a FBS served as a blueprint for managing other chronic conditions.

### **Timeline**

A project schedule (see Appendix E) was created as an essential tool to ensure the smooth execution of the project. The timeline reflected the development of the faith-based HTN management program using an adaptation of the JHEBP's 19-step model through the PET process. The main categories included the *process steps from practice problem identification, evidence search of the problem, creation of an action plan, project implementation, data collection, evaluation of outcomes, determination of next steps, and dissemination plan* (Dang & Dearholt, 2018). The schedule also outlined the timeframe for the university EBP committee's approval. The communication tool (see Table 3) provided a schedule for collaborating with the project team, key stakeholders, and the organization for sustainability.

### **Budget**

The overall cost to implement the project was minimal. The largest portion of the project's expenses (see Table 4) were incurred through costs for duplications of project education and training material, travel expenses, the purchasing of journals, light refreshments, and gratitude gifts.

### **Results**

A thorough and strategic evaluation of the EBP project occurred to determine if the PICOT outcome was achieved (see Appendix F). The implementation strategy for the project was developed in collaboration with faith-based leadership and trained community health providers. An adaptation of Harvin's (2018) advertisement flyer (see Figure 2) was used to start

the implementation plan along with recruitment through periodic church announcements during services, and by the church leadership during community partnership meetings. The faith-based leader was a major champion for the project, which was essential for successful implementation.

A total of nine individuals participated in the project who identified as African American or Black,  $\geq 18$  y/o with a diagnosis of HTN. Those with multiple comorbidities were included; only those without a diagnosis of HTN were excluded. One participant only participated in the pre-implementation phase of the study and hence was excluded from the data analysis. The total final sample size for the study was eight. Approval for project implementation was obtained by the FBO, the affiliated organization, and the USAHS' Ethical and Protocol Review Committee. Participation in the project was voluntary with the option to withdraw at any time. A willingness to participate was obtained through a version of Harvin's (2018) written consent (see Appendix G).

Appendix H provides a demographic description of the participants collected during the information session (see Appendix I). The program's curriculum was adopted from the American Heart Association's Small Changes Make a Big Difference Blood Pressure Brochure (see Figure 3). The pre-selected scripture, discussion prompt, and journal entry format were adopted from Harvin et al. (2020) practice project to improve hypertension management among African Americans. Blood pressure measurements were obtained using a sphygmomanometer; the gold standard for correct estimations of BP levels (Malaisamy et al., 2022), and weights were obtained using a Health-O-Meter. A copy of the BP and weight log is presented in Table 5. Data was collected and analyzed by the PM. Data integrity and HIPPA considerations were addressed by identifying each participant using a random unique number and survey results were secured in a locked file cabinet in the PM's office with access by the PM only.

Data collection occurred pre- and post-intervention over 8 weeks. Participants' demographics were analyzed using frequencies and percentages. Table 6 shows the demographics of the participants. Three-quarters of the participants (75.0%) were female and held a bachelor's degree. The average age of the participants was 61.50 years, and their ages ranged from 51 to 70 years. Figures 4 and 5 provide a visualization of gender and education levels for the participants. Frequency tables (for categorical variables) and descriptive statistics (for continuous variables) were used to summarize the demographics and the pre-and-post-implementation data for the control group and the intervention group. SPSS version 23 for Windows was used to achieve a descriptive statistical analysis (Field, 2013).

Appendix J describes the Hypertension Self-Care Activity Levels Effects (H-SCALE; Warren-Findlow et al., 2013) that was used to collect data to assess self-care activities and their correlation to HTN. The H-SCALE is an evidence-based tool with documented validity and reliability that was used to measure the project's outcome. Permission to use the H-SCALE (see Appendix K) was received by the developer of the tool. The H-SCALE is a 31-item self-reported questionnaire used to assess six self-care activities based on JNC7 recommendations with influences on BP. Each self-care activity includes specific items that evaluate medication adherence (3 items), DASH-diet components (11 items), physical activity (2 items), smoking (2 items), weight management (10 items), and alcohol (3 items). A program evaluation was also conducted after the program (see Appendix L). Tables 7 and 8 show the descriptive statistics of the pre-and-post intervention measures, including systolic and diastolic BP, weight, and the scores of the 6 hypertension self-care activities for the H-SCALE, (i.e., medication usage, DASH-Q, physical activity, smoking, weight management, and alcohol, for the control and the intervention groups).

The means of the pre-and-post-intervention measures for the control and the intervention groups are illustrated in Figures 6-14. To answer the PICOT question and to

determine the effectiveness of the HTN education program compared to standard HTN education in the FBS, two-sample t-tests (Field, 2013) were used to determine if there was a statistically significant difference in changes for BP (systolic and diastolic), weight management, and the scores of the 6 hypertension self-care activities for the H-SCALE, between the control group and the intervention group.

Three assumptions for two-sample *t*-tests (Bland, 1995) were examined. The independence assumption was satisfied as each participant was an independent individual and hence the observations were independent of one another. The normality assumption was checked via the Shapiro-Wilk normality test. The assumption of homogeneity of variances was examined using Levene's test, comparing if the two-sample t-tests have equal variances. Table 8 reflects there was no statistically significant difference in the changes of the score for BP (systolic and diastolic), weight management, or the six HTN self-care activities for the H-SCALE from pre-intervention to post-intervention between the control group and the intervention group. However, the clinical significance is of greater relevance in EBP projects because it determines whether the results of the project are effective or meaningful (Kim et al., 2022). Clinical significance was achieved with improved mean scores for BP (systolic and diastolic), weight management and medication usage, DASH-Q, and physical activity HTN self-care activities. This was achieved for both the control and intervention groups post-implementation with greater improvements seen in the intervention group. However, the mean score for tobacco use remained the same for the intervention group as there were no reported smokers; with an improved mean score for decreased tobacco use in the control group post-implementation. The findings are presented in Table 7.

### **Impact**

Due to the disproportionate effects of diseases such as HTN in African Americans, culturally tailored approaches such as incorporating health-promoting interventions in the FBS

were worthwhile. After the implementation of the project in April 2023, mean SBP readings dropped (11.5 mmHg) and DBP readings dropped (8.00 mmHg) for the intervention group. Medication adherence post-implementation rose (1.73 points) in the control group and (4.25 points) in the intervention group. Confidence, excitement, increased awareness, and TLC uptake emerged among the participants from the project delivered in the FBS. The participants expressed on the post-program evaluation that the setting, pre-selected scriptures, and support fostered vulnerability, trust, and a feeling of connectedness which empowered them to make positive health changes. A CBPA to increase health-promoting behaviors in African American adults by integrating the FBS can be a holistic and effective strategy for HTN management.

There was no clinically significant difference between the control and intervention groups; however, as in the study of Bokhour et al (2016), participants exhibited more emotional engagement to change behaviors when they heard real hypertension stories from other participants. Images and discussions of grocery carts were shared in the triumph of exchanging the usual high-sodium and added sugar items for healthier options after reading food labels. Participants also shared personal exercise routines to reinforce principles discussed during the fitness/activity session; directly correlating to the impact of “community” for this population of individuals. This is of clinical significance as it highlights the connection participants felt with each other by sharing their experiences and was more influential than information alone (Bokhour et al., 2016).

The project was a pilot study that was conducted in the parent church of a three-church association. The participants were enthusiastic to continue the sessions and share what they had learned. Creating a streamlined version of the teaching material and sessions for the lay health providers to implement within the remaining churches of the association will establish sustainability. Additional program material for church-wide implementation was provided by the PM with a binder of the session content for each lay health provider.

An ongoing evaluation of the effectiveness of the project was developed by the PM which consists of monthly *Pressure and Praise* socials. The socials include BP and weight screenings, with ongoing success measured by a licensed nurse and trained lay health providers who are all members of the three-church association. The participants enjoy heart-healthy refreshments during an open discussion and reflection on the trials and triumphs of continued HTN management through journal prompts provided during the initial informational session. The socials are hosted by the participants on a rotating basis. The hosts provide healthy refreshments of their choice for all to sample. The socials have provided support, a sense of community, and confidence as well as accountability and sustainability.

### **Limitations**

To evaluate the effectiveness of the project, limitations were also addressed. Participants were self-selected and volunteered for the control or intervention group with consideration of even distribution. Twenty-two individuals showed initial interest during routine church announcements but failed to commit. The rationale for the loss of interest was not collected. The participants were provided with punch cards for attendance to be entered into a drawing at the end of the program which could have affected their motivation to participate based on an incentive. The small sample size (n=8) and the percentage of females (75%) to males do not provide a comprehensive representation of African American adults with HTN and reflect a need for greater unconventional strategies to reach African American males.

### **Dissemination**

The goal of EBP projects is to solve clinical problems through practice improvement (Terhaar & Taylor, 2018). EBP projects are evaluated for strength and quality, and once implemented and evaluated they are useful for multidisciplinary teams and staff members (Terhaar & Taylor, 2018). The dissemination of results occurred with key stakeholders within the organization, church leadership, the author of the H-SCALE tool used for measuring self-care



activities, and the professional community for clinical practice improvement. The results were shared with the participants during their scheduled Praise and Pressure social. A meeting was held with the program officer and evaluator to discuss the findings to support future public health initiatives and improve resources through grant funding. A brief presentation of the findings was also shared with the FBO leadership and congregants during its combined service with the other FBOs within the association.

The manuscript will be submitted to the university's faculty and the Scholarship and Open Access Repository for students' scholarly projects at USAHS. Oral poster presentations will occur via GoReact and at the DNP Scholarly Project Symposium in August co-hosted by the Alpha Alpha Alpha chapter of Sigma Theta Tau International Honor Society of Nursing and the USAHS school of nursing. An abstract was prepared for submission to the Alabama State Nurses Association's 2023 Annual Convention. A manuscript will also be prepared for submission to *The American Journal of Public Health*. The manuscript will be submitted following the journals' guidelines and undergo the peer review process before publication.

### **Conclusion**

The FAITH hypertension management program was implemented to address how the HTN and heart disease burden have disproportionately affected African American adults and the need to incorporate individualized, culturally tailored interventions through knowledge and resources to promote life-changing and sustainable practices for healthier living. The FBS, a community-based participatory research approach, using lay health providers and health education demonstrated a positive effect on African Americans' perceptions of HTN and its management (Brown et al., 2019; Burton et al., 2017; Kim et al., 2016; Lynch et al., 2019; Schoenthaler et al., 2018). The EBP project developed a HTN management program that evaluated BP measurements pre- and post-interventions. The interventions consisted of brief HTN education sessions followed by perceptions of self-care habits and reflections facilitated by

group discussions with action items that fostered healthy nutrition, social, and physical habits. The results of the data provided a framework for health promotion that incorporates culturally tailored nutrition education, weight reduction measures, and increased activity that can potentially improve disease management, quality of life, and decrease the risk of heart disease and healthcare costs.

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**Table 1**

*Synthesis of Evidence Themes*

	Community-based Participatory Approach	Lay Health Workers/Community-based health workers	Faith-based Setting	Knowledge/Education
Schoenthaler et al., 2018	Provided social support & culturally sensitive interventions	Trained individuals from the same church who also serve as recruiters	Trusted setting for lay health providers to implement HTN interventions	
Wilcox et al., 2013	Fosters increased moderate to vigorous physical activity		Promoted increase in moderate to vigorous physical activity	
Su et al., 2019			Ideal setting to address chronic illnesses; Improved access to resources	
Brown et al., 2019	Implement culturally sensitive interventions			Increased knowledge & awareness of HTN
Lynch et al., 2019	Improved fruit & veggie consumption; decreased BP measurements. Easily implemented by pastors & church leaders			
Burton et al., 2017	Culturally tailored interventions to address barriers & increase access to health-promoting resources (i.e., food & green spaces)		Faith-based setting ideal for culturally tailored interventions	
Kim et al., 2016		Cost-effective option; ideal for underserved, minority & ethnic races for health promotion		
Buckley et al., 2016				Addressing patient perceptions r/t health factor important to improve HTN outcomes
Warren-Findlow et al., 2013				Increased adherence to self-care practices/interventions aligned with decreased SBP
Alen et al., 2022			Increased HTN awareness to equip patients & improve BP	HTN education improved awareness for effective self-care management



**Table 2**

*Strength of Evidence Summary for Practice Recommendation*

	Community-based Participatory Approach	Lay Health Providers	Faith-based Setting	Knowledge/Education Attainment
<p><b>Level I</b></p> <ul style="list-style-type: none"> <li>-Experimental study, Randomized control trial (RCT)</li> <li>-Explanatory mixed methods design with Level I quantitative study</li> <li>-Systematic review (SR) of RCTs, with or without meta-analysis</li> </ul>	<ul style="list-style-type: none"> <li>Cluster RCT (Schoenthaler et al., 2018)</li> <li>Group RCT, CBPR (Wilcox et al., 2013)</li> <li>Systematic review (Burton et al., 2017)</li> </ul>	<ul style="list-style-type: none"> <li>Cluster RCT (Schoenthaler et al. 2018)</li> <li>Systematic review (Kim et al., 2016)</li> </ul>	<ul style="list-style-type: none"> <li>Cluster RCT (Schoenthaler et al. 2018)</li> <li>Group RCT, CBPR (Wilcox et al., 2013)</li> <li>Systematic review (Burton et al., 2017)</li> </ul>	<ul style="list-style-type: none"> <li>Systematic review (Buckley et al., 2016)</li> </ul>
<p><b>Level II</b></p> <ul style="list-style-type: none"> <li>-Quasi-experimental study</li> <li>-Explanatory mixed methods design including Level II quantitative study</li> <li>-SR or a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis</li> </ul>	<ul style="list-style-type: none"> <li>Quasi-experimental, non-randomized (Brown et al., 2019)</li> </ul>			<ul style="list-style-type: none"> <li>Quasi-experimental, non-randomized (Brown et al., 2019)</li> <li>2-phased, mixed method, pilot study (Su et al., 2019)</li> </ul>
<p><b>Level III</b></p> <ul style="list-style-type: none"> <li>-Nonexperimental study</li> <li>-SR or combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only with or without meta-analysis</li> <li>-Explanatory, convergent, or multiphasic mixed methods studies</li> <li>-Explanatory mixed methods design including only Level III quantitative study</li> <li>-Qualitative study</li> <li>-Systematic review of qualitative studies with or without meta-synthesis</li> </ul>	<ul style="list-style-type: none"> <li>Community-based participatory research, single-armed (Lynch et al., 2019)</li> </ul>			
<p><b>Level IV</b></p> <ul style="list-style-type: none"> <li>-Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence. Includes:</li> <li>-Clinical practice guidelines</li> <li>-Consensus panels/position statements</li> </ul>				<ul style="list-style-type: none"> <li>Cross-sectional survey, pilot study (Warren-Findlow et al, 2013)</li> </ul>
<p><b>Level V</b></p> <ul style="list-style-type: none"> <li>-Based on experimental and non-research evidence. Includes:</li> <li>-Scoping reviews, integrative reviews, literature reviews</li> <li>-Quality improvement, program or financial evaluation</li> <li>-Case reports</li> <li>-Opinion of nationally recognized experts</li> </ul>			<ul style="list-style-type: none"> <li>Quasi-experimental, pilot study (Alen et al., 2022)</li> </ul>	<ul style="list-style-type: none"> <li>Quasi-experimental, pilot study (Alen et al., 2022)</li> </ul>

**Table 3***Communication Tool*

Communication	Format	Frequency	Audience
Project approval	Email	TBD	Project Team Stakeholders
Recruitment of participants	In-person/mail/email	1-2 weeks post project approval	Faith-based leadership/Stakeholders
Preceptor feedback communication/check-in	Virtual/email/phone	Monthly on Mondays @ 9 am & as needed	Project manager Preceptor
Community/lay health worker training	In-person	Saturdays of weeks 3 and 5 of NUR 7802	Project manager Volunteers
Program implementation	In-person	Weekly on Saturdays @ 10 am	Project manager Participants Trained lay health workers
Dissemination of findings	In-person/virtual/email	Week 11, 13 & 15 of NUR 7803	Project team Stakeholders Peers/Faculty Professional community

**Table 4**

*Implementation EBP Project Budget*

<u>EXPENSE CATEGORY</u>	<u>AMOUNT</u>
<b>Direct:</b>	
<b>A. Salary and Benefits</b>	
Program Director, Dietician, Community Health Worker, Spiritual Leader/Pastor, Facility Volunteers	\$ 100,000 (In Kind)
<b>B. Services</b>	
IT, Maintenance, Facility Management	\$1000.00 (In Kind)
<b>C. Supplies &amp; Materials</b>	
Digital Blood Pressure Monitor (\$50/each x 2)	\$100.00
Brochures/Pamphlets/Handouts	\$125.00
Journals (x 50)	\$0.00
Folders (x 50)	\$0.00
<b>D. Statistician</b>	\$1200.00
<b>E. Marketing/Advertisement</b>	
Flyer	\$0.00
Duplications (\$.50/each x 50 copies)	\$25.00
<b>F. Travel</b>	
Program Manager	\$5000.00 (In Kind)
<b>G. Equipment</b>	
Sphygmomanometer (x 2)	\$0.00
Computer	\$0.00
<b>Indirect:</b>	
<b>H. Overhead</b>	\$10,000 (In Kind)
<b>I. Other (Specify)</b>	
Thank You Gifts	\$150.00
Refreshments During Sessions	\$200.00 (In Kind)
<b>Total Expenses</b>	\$116,200.00 (In Kind) \$1,600.00

**Table 5**

*Blood Pressure and Weight Log*

ID	Baseline	Pre-intervention	Post-intervention
	/	/	/
	/	/	/
	/	/	/
	WT:	WT:	WT:
	/	/	/
	/	/	/
	/	/	/
	WT:	WT:	WT:
	/	/	/
	/	/	/
	/	/	/
	WT:	WT:	WT:
	/	/	/
	/	/	/
	/	/	/
	WT:	WT:	WT:
	/	/	/
	/	/	/
	/	/	/
	WT:	WT:	WT:

**Table 6***Demographics*

	<i>N</i>	%
Gender		
Female	6	75.0
Male	2	25.0
Education level		
Associate degree	1	12.5
Some college	1	12.5
Bachelor's degree	6	75.0
Age ( <i>M</i> ± <i>SD</i> )	61.50 ± 7.17	

**Table 7***Descriptive Statistics (M (SD) of Pre-and-Post Intervention Measures*

	Control				Intervention			
	Pre	Post	Post-Pre	SW	Pre	Post	Post-Pre	SW
Systolic BP	132.75 (18.23)	137.50 (24.80)	4.75 (32.86)	0.957	135.25 (4.50)	123.75 (5.50)	-11.50 (3.00)	0.224
Diastolic BP	71.50 (4.20)	71.50 (12.26)	0 (12.03)	0.393	89.00 (10.42)	81.00 (3.37)	-8.00 (9.93)	0.329
Weight	171.50 (74.59)	166.50 (70.90)	-5.00 (4.24)	0.492	203.75 (35.06)	201.75 (31.74)	-2.00 (4.62)	0.024
Medication usage	19.25 (3.50)	21.00 (0)	1.75 (3.50)	0.001	13.25 (8.66)	17.50 (6.35)	4.25 (3.10)	0.538
DASH-Q	56.25 (17.75)	56.50 (10.34)	0.25 (15.52)	0.269	32.00 (6.63)	34.25 (7.63)	2.25 (5.19)	0.189
Physical activity	9.75 (5.44)	13.25 (4.92)	3.50 (1.73)	0.195	6.25 (2.87)	12.00 (5.10)	5.75 (4.35)	0.310
Smoking	1.75 (3.50)	0.50 (1.00)	-1.25 (2.50)	0.001	1.75 (3.50)	1.75 (3.50)	0 (0)	NA
Weight management	41.75 (5.91)	40.75 (5.56)	-1.00 (8.83)	0.079	31.25 (3.69)	39.50 (6.25)	8.25 (4.86)	0.012
Alcohol	0.50 (1.00)	1.00 (2.00)	0.50 (1.00)	0.001	2.50 (3.00)	2.25 (2.87)	-0.25 (0.50)	0.001

Note. SW =  $p$ -value of the Shapiro-Wilk test. NA = not available. According to the Shapiro-Wilk tests, data for changes of medication usage ( $p = 0.001$ ), smoking ( $p = 0.001$ ), and alcohol ( $p = 0.001$ ) for the control groups and data for changes of weight ( $p = 0.024$ ), weight management ( $p = 0.012$ ), and alcohol ( $p = 0.001$ ) were not normally distributed.

**Table 8**

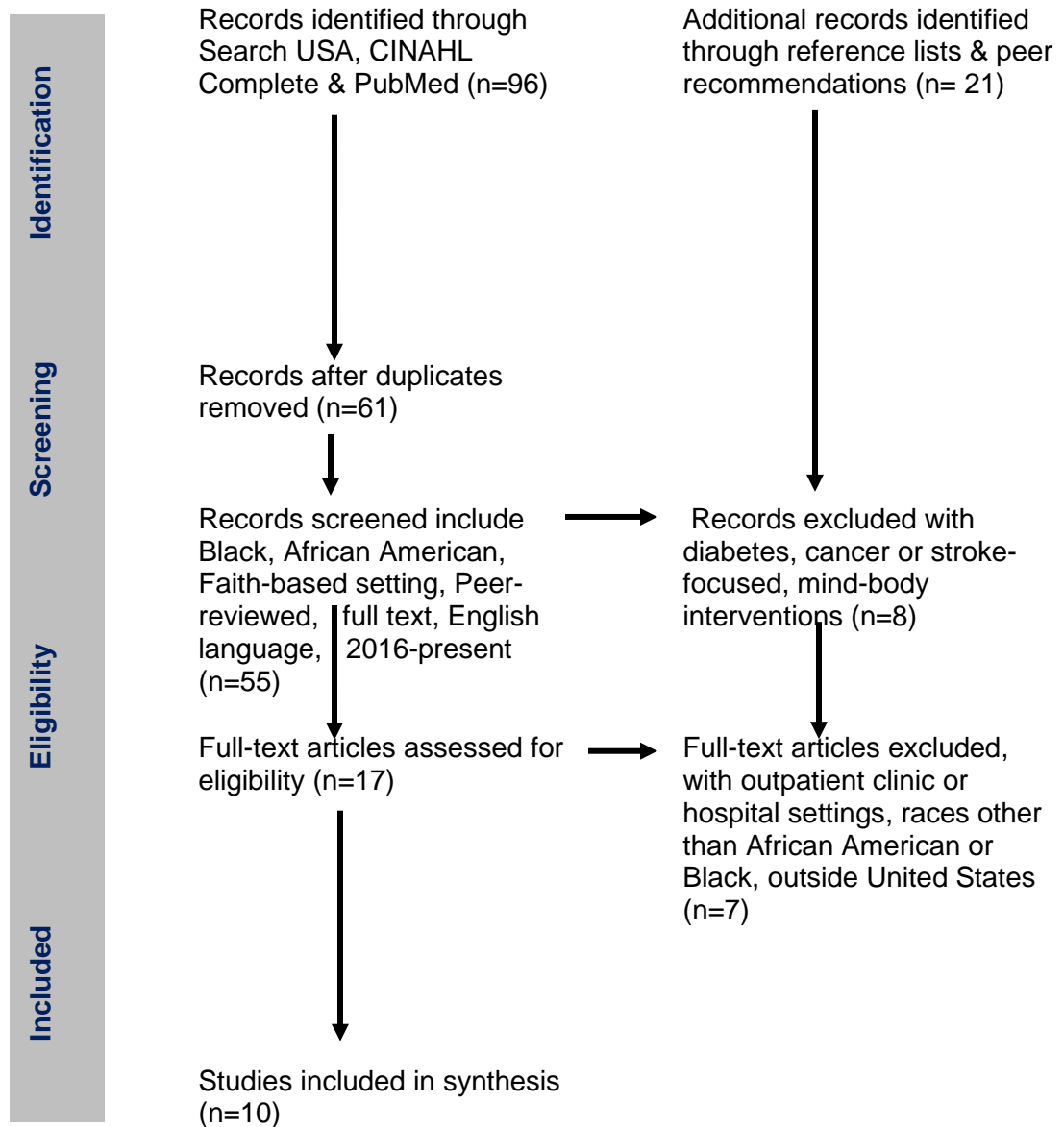
*Results of Two-sample T-tests*

	Equal variances	Levene's test		Two-sample <i>t</i> -test			Mean difference		
		<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>M</i>	<i>SE</i>	<i>95% CI</i>
Systolic BP	Assumed	4.791	0.071	0.985	6	0.363	16.25	16.50	[-24.12, 56.62]
	Not assumed			0.985	3.05	0.396	16.25	16.50	[-35.77, 68.27]
Diastolic BP	Assumed	0.806	0.404	1.026	6	0.345	8.00	7.80	[-11.08, 27.08]
	Not assumed			1.026	5.79	0.346	8.00	7.80	[-11.25, 27.25]
Weight	Assumed	0.600	0.468	-0.957	6	0.376	-3.00	3.14	[-10.67, 4.67]
	Not assumed			-0.957	5.96	0.376	-3.00	3.14	[-10.69, 4.69]
Medication usage	Assumed	0.095	0.768	-1.070	6	0.326	-2.50	2.34	[-8.22, 3.22]
	Not assumed			-1.070	5.91	0.326	-2.50	2.34	[-8.24, 3.24]
DASH-Q	Assumed	24.067	0.003	-0.244	6	0.815	-2.00	8.18	[-22.02, 18.02]
	Not assumed			-0.244	3.66	0.820	-2.00	8.18	[-25.57, 21.57]
Physical activity	Assumed	2.064	0.201	-0.961	6	0.374	-2.25	2.34	[-7.98, 3.48]
	Not assumed			-0.961	3.93	0.392	-2.25	2.34	[-8.80, 7.30]
Smoking	Assumed	9.000	0.024	-1.000	6	0.356	-1.25	1.25	[-4.31, 1.81]
	Not assumed			-1.000	3.00	0.391	-1.25	1.25	[-5.23, 2.73]
Weight management	Assumed	1.192	0.317	-1.836	6	0.116	-9.25	5.04	[-21.58, 3.08]
	Not assumed			-1.836	4.66	0.130	-9.25	5.04	[-22.49, 3.99]
Alcohol	Assumed	1.800	0.228	1.342	6	0.228	0.75	0.56	[-0.62, 2.12]
	Not assumed			1.342	4.41	0.245	0.75	0.55	[-0.75, 2.25]

Note. Levene's tests indicated the homogeneous variance assumption was not satisfied for the two-sample *t*-test for DASH-Q ( $F(1, 6) = 24.067, p = 0.003$ ) and smoking ( $F(1, 6) = 9.000, p = 0.024$ ) and hence Welch-Satterthwaite *t*-tests were performed for these two measures. Mann-Whitney *U* tests were performed for weight ( $U = 12.00, SE = 3.42, Z = 1.169, p = 0.243$ ), medication usage ( $W = 11.00, SE = 3.23, Z = 0.929, p = 0.353$ ), smoking ( $W = 10.00, SE = 2.00, Z = 1.000, p = 0.317$ ), weight management ( $W = 12.00, SE = 3.44, Z = 1.162, p = 0.245$ ), and alcohol ( $W = 4.50, SE = 2.65, Z = -1.323, p = 0.186$ ) to validate the results of the two-sample *t*-tests as the normality assumption was not satisfied for these variables.

**Figure 1**

*PRISMA Diagram*



Note. Prisma flowchart diagram from "Preferred Reporting Items for Systematic Reviews and Meta-analyses: The PRISMA Statement," by D. Moher, A. Liberati, J. Tetzlaff, & D.G. Altman, 2009, *Annals of Internal Medicine*, 151(4), p.267 (<http://dx.doi.org/10.7326/0003-4819-151-4-200908180-00135>). Copyright 2009 by The American College of Physician.



Figure 2

Advertisement Flyer



***Are you in need of **FAITH?*****  
***Faith And Information to Treat Hypertension***

*Come and be a part of FAITH—an evidence-based program designed with simple strategies to increase your knowledge and management of high blood pressure.*

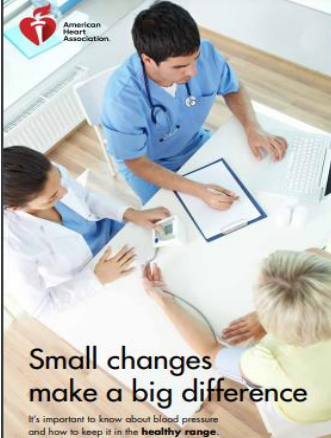
- ♦ *8 weekly interactive sessions*
- ♦ *American Heart Association curriculum*
- ♦ *Social & Community support*
- ♦ *Group setting*
- ♦ *Blood pressure screenings*

***Green Pastures Baptist Church***  
***2239 N. Flag Chapel Road***  
***Jackson, MS 39209***

***Contact: Tiffany Bell @ 601.668.9843 or t.bell@usa.edu***

Figure 3

American Heart Association: Small Changes Make a Big Difference Blood Pressure Brochure



**Small changes make a big difference**

It's important to know about blood pressure and how to keep it in the healthy range.

**TYLENOL**

Tylenol regularly supports the American Heart Association's efforts to improve healthy choices related to living with high blood pressure.

**OVERVIEW**

### What Is Blood Pressure?

When your heart beats, it pumps blood into your blood vessels. This creates pressure against the blood vessel walls.

This blood pressure causes your blood to flow to all parts of your body. A blood pressure (BP) reading consists of two numbers.

**Systolic BP = Larger (first) number**  
**Diastolic BP = Smaller (second) number**

### What Does It Mean to Have High Blood Pressure?

High blood pressure (HBP) is when your blood pressure is consistently too high.

BLOOD PRESSURE CATEGORY	SYSTOLIC BLOOD PRESSURE	DIASTOLIC BLOOD PRESSURE	HEALTHY TO LIVE BY
<b>NORMAL</b>	LESS THAN 120	LESS THAN 80	YES
<b>ELEVATED</b>	120-129	80-89	NO
<b>HIGH BLOOD PRESSURE</b>	130-179	80-119	NO
<b>VERY HIGH BLOOD PRESSURE</b>	180 or higher	110 or higher	NO

### Nearly half of American adults have high blood pressure.

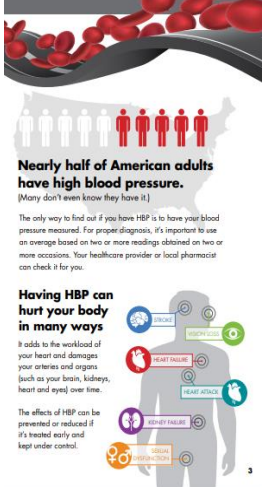
(Many don't even know they have it.)

The only way to find out if you have HBP is to have your blood pressure measured. For proper diagnosis, it's important to use an average based on two or more readings obtained on two or more occasions. Your healthcare provider or local pharmacist can check it for you.

### Having HBP can hurt your body in many ways

It adds to the workload of your heart and damages your arteries and organs (such as your brain, kidneys, heart and eyes) over time.

The effects of HBP can be prevented or reduced if it's treated early and kept under control.



**SELF-MONITORING**


### What Can I Do to Monitor BP?

If you have HBP, home monitoring can help your healthcare provider determine whether treatments are working. Monitoring your BP at home is as easy as buying a BP cuff, using it correctly and tracking the numbers.

HBP monitors can be purchased in most pharmacies and online. An automatic, cuff-style (loop upper arm) monitor is recommended.

Ideally, you should measure and record your BP twice a day. Take at least two readings one minute apart in the morning before taking your medications and in the evening before dinner.

Use our **Check Change Control**® tool: [heartchecker.com/ehc](http://heartchecker.com/ehc), a free online tool to help you track and monitor blood pressure. Just find the campaign code on the map for your state and sign up.



### It's important to understand how to take your blood pressure properly so that you receive a correct reading.

**STEPS FOR ACCURATE BP MEASUREMENT**

1. DON'T SMOKE, EXERCISE, DRINK COFFEINE, BEVERAGES OR ALCOHOL WITHIN 30 MINUTES OF MEASUREMENT.
2. REST IN A CHAIR FOR AT LEAST 5 MINUTES WITH YOUR LEFT ARM RESTING COMFORTABLY ON A FLAT SURFACE AT HEART LEVEL. SIT CALM AND DON'T TALK.
3. MAKE SURE YOU'RE RELAXED. SET FEET FLAT ON THE FLOOR WITH YOUR BACK TO YOUR BACK STRAIGHT AND SUPPORTED.
4. PLACE THE BOTTOM OF THE CUFF ABOVE THE BEND OF THE ELBOW. DON'T TAKE MEASUREMENT OVER CLOTHING.
5. USE PROPERLY CALIBRATED AND RELATED INSTRUMENT. CHECK THE CUFF SIZE AND FIT.
6. TAKE AT LEAST TWO READINGS 1 MIN. APART IN MORNING BEFORE TAKING MEDICATIONS, AND IN EVENING BEFORE DINNER. RECORD ALL RESULTS.

### Learn Which Substances Could Raise Your Blood Pressure

It is critical to understand what medications and substances may affect your blood pressure. Talk to your healthcare professional or pharmacist if you have any questions or concerns.

**Examples include:**

- Alcohol
- Amphetamines
- Antidepressants
- Caffeine
- Certain medicines to treat mental health
- Certain cancer medications, such as immunosuppressants
- Corticosteroids, such as prednisone
- Decongestants
- Herbal supplements
- Illot and recreational drugs
- Iron-sulfonamide
- Non-Steroidal Anti-inflammatory Drugs (NSAIDs)
- Oral birth control

If you suffer from chronic pain and have HBP, talk to your healthcare provider or pharmacist if you have questions about what pain relievers may be right for you. The American Heart Association recommends avoiding NSAIDs for over-the-counter pain relief for those with HBP because they may further elevate blood pressure or make your BP medication less effective. Instead, consider pain relievers such as acetaminophen.


Download a printable infographic at [heart.org/BPTools](http://heart.org/BPTools) to help easily identify potential BP Raisers.

### Even Small Changes Will Make a Big Difference

You can manage your blood pressure and keep it in check, by:

- not smoking, vaping or using tobacco products
- eating a heart-healthy diet
- reaching and maintaining a healthy weight
- getting regular physical activity
- limiting your sodium (salt)
- limiting your alcohol intake
- taking your medications properly

Take these small steps to big changes. Start with one or two. Learn more at [heart.org/mylifecheck](http://heart.org/mylifecheck).



**It's a Team Effort**

It takes a team to treat your high blood pressure successfully. You and your healthcare providers need to work together.

Be your own health advocate by following a healthy lifestyle, such as reducing sodium, exercising and checking blood pressure as part of your daily routine.

Remind yourself that as long as you and your team of healthcare providers work together, you CAN manage your blood pressure. Work with your team to create an exercise, diet and medication plan that's right for you.

Visit [heart.org/BPTools](http://heart.org/BPTools) for more information.

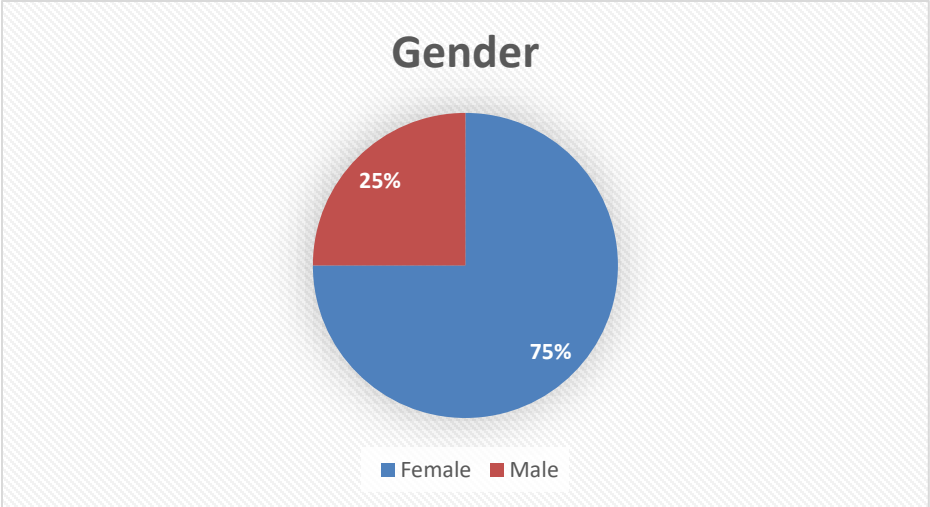
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**TYLENOL**

Tylenol regularly supports the American Heart Association's efforts to improve healthy choices related to living with high blood pressure.

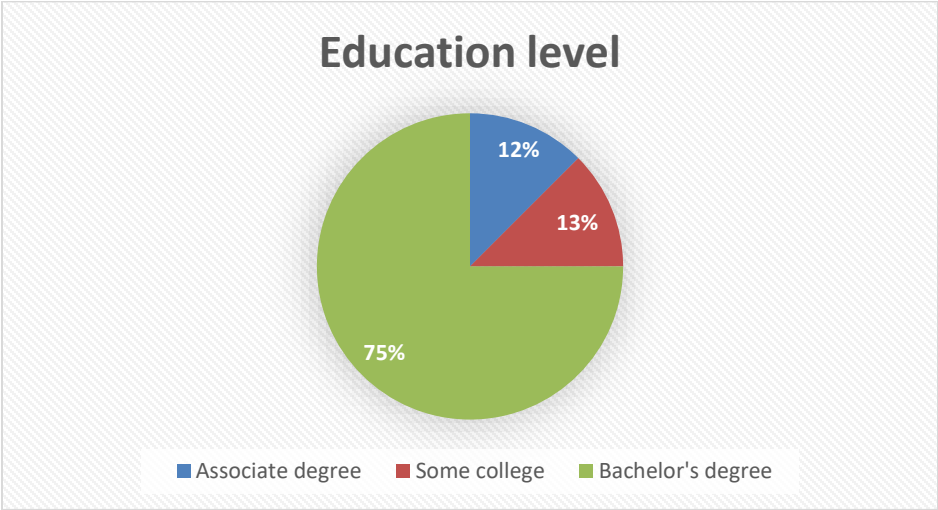
**Figure 4**

*Gender*



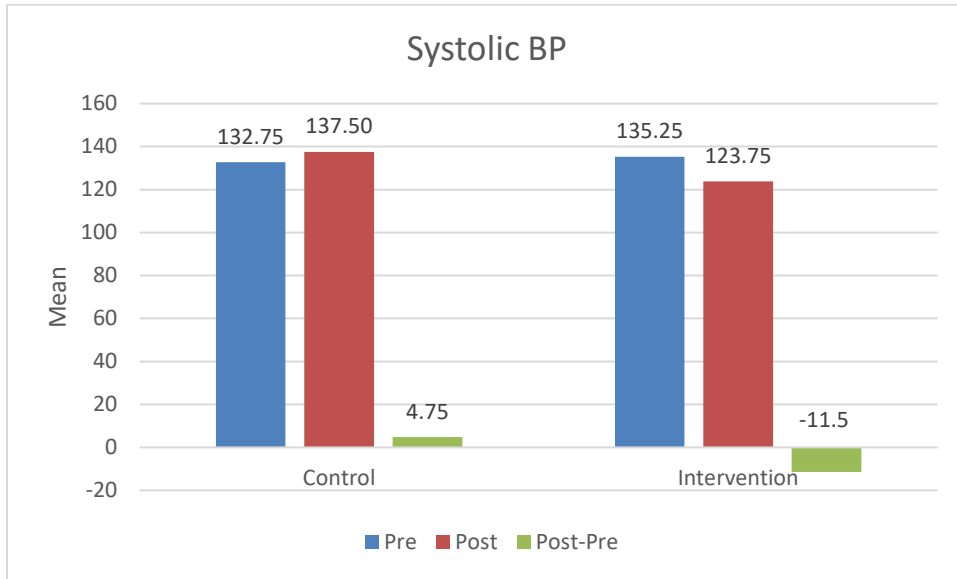
**Figure 5**

*Educational Level*



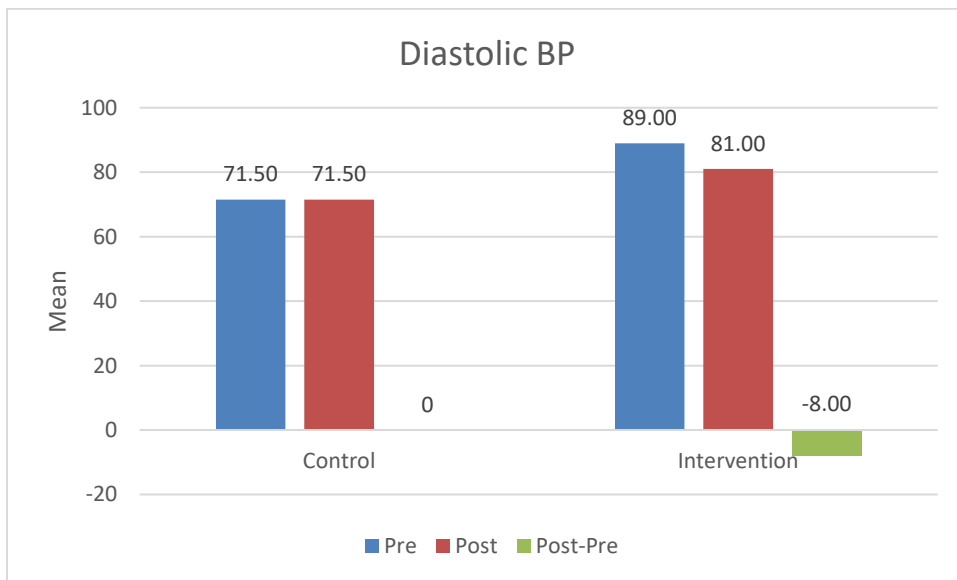
**Figure 6**

*Mean Systolic BP for the Intervention and Control Groups*



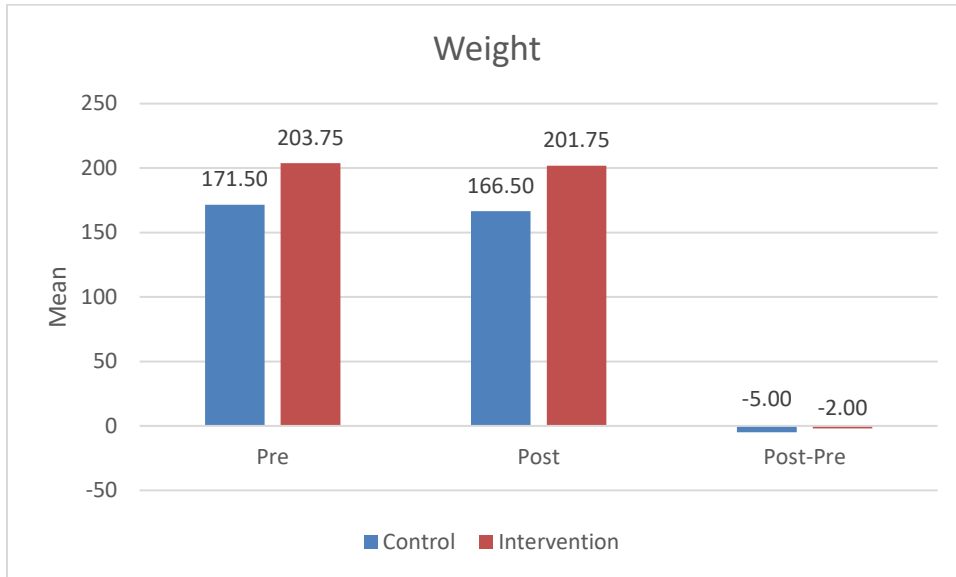
**Figure 7**

*Mean Diastolic BP for the Intervention and Control Groups*



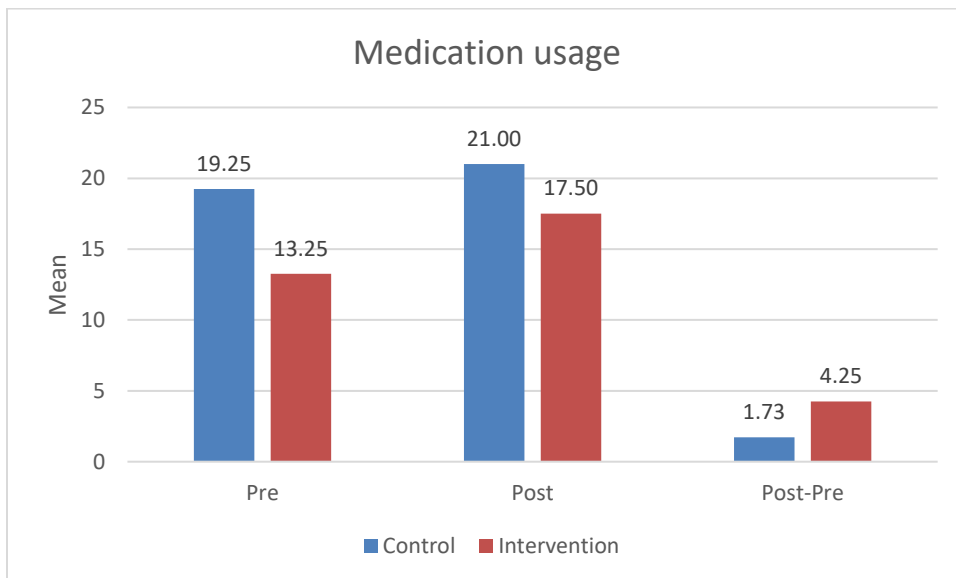
**Figure 8**

*Mean Weight for the Control and Intervention Groups*



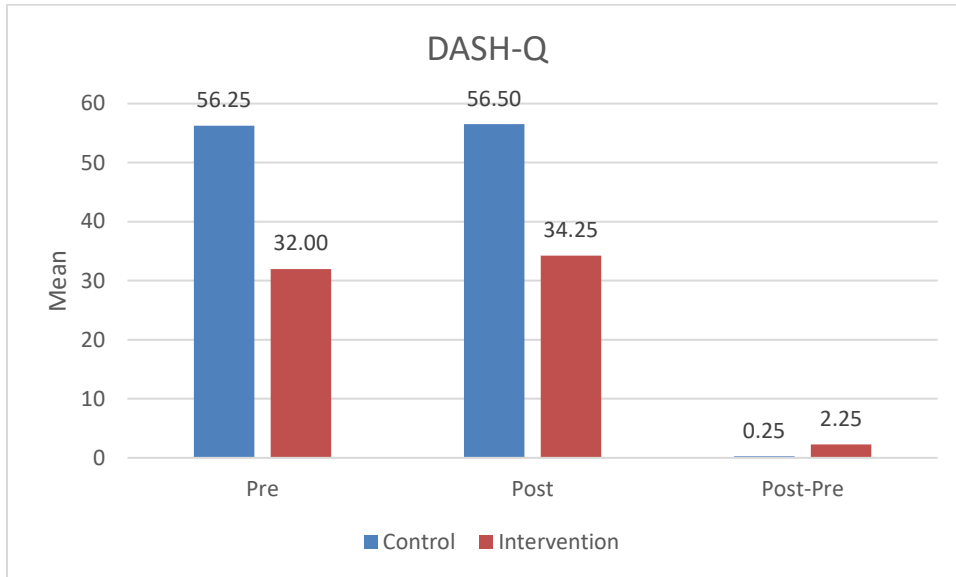
**Figure 9**

*Mean Score of Medication Usage for the Control and Intervention Groups*



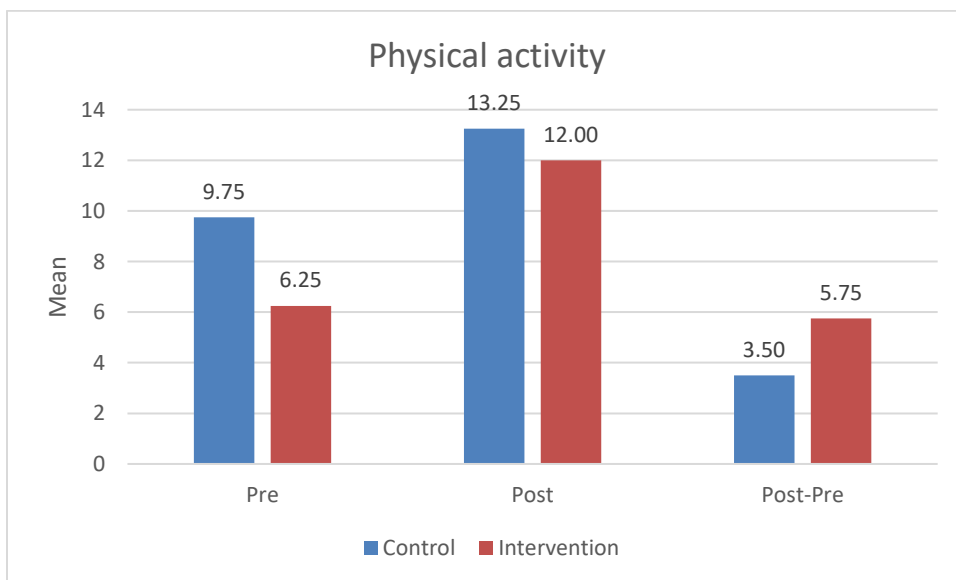
**Figure 10**

*Mean Score of DASH-Q for the Control and Intervention Groups*



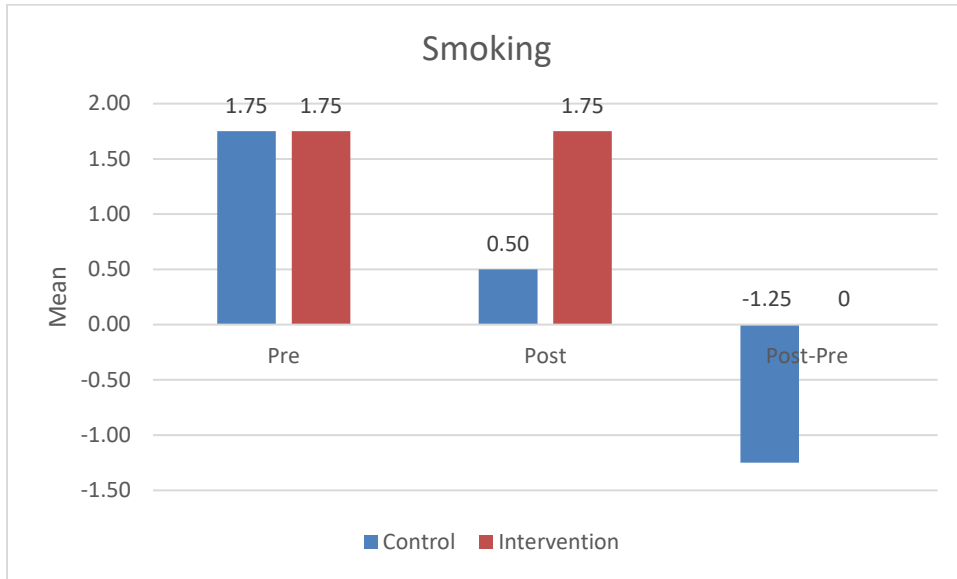
**Figure 11**

*Mean Score of Physical Activity for the Control and Intervention Groups*



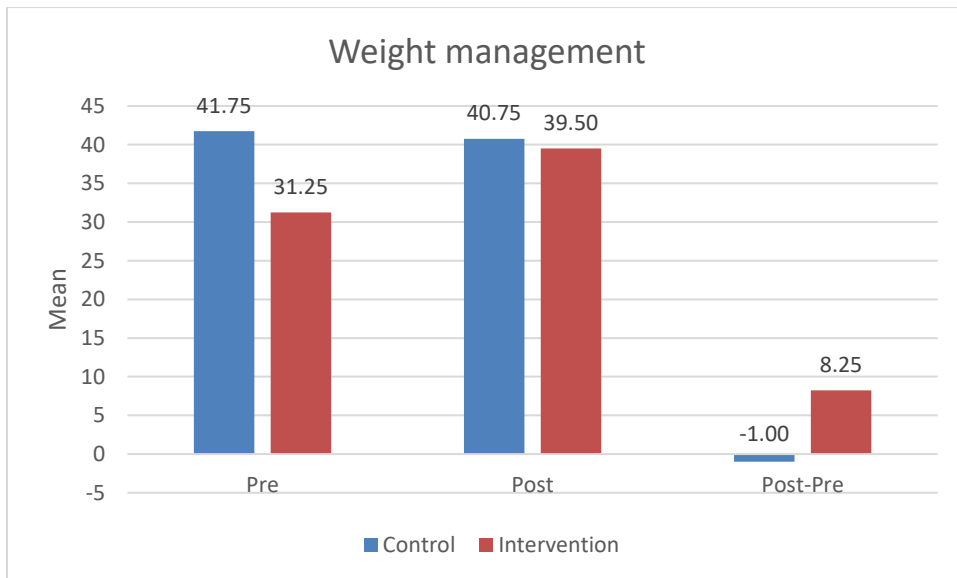
**Figure 12**

*Mean Score of Smoking for the Control and Intervention Groups*



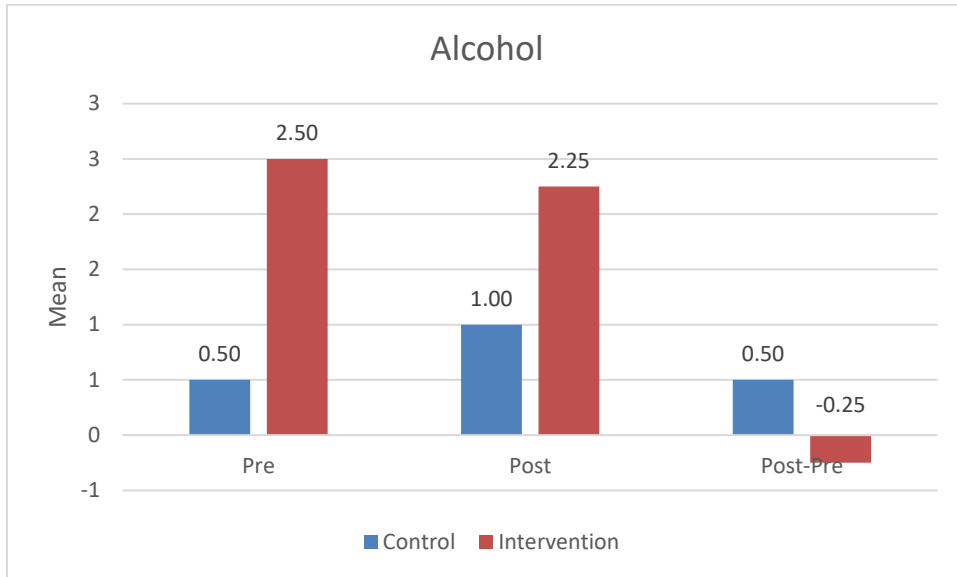
**Figure 13**

*Mean Score of Weight Management for the Control and Intervention Groups*



**Figure 14**

*Mean Score of Alcohol for the Control and Intervention Groups*





Appendix A

Summary of Primary Research Evidence

Citation	Design, Level Quality Grade	Sample Sample Size	Intervention Comparison	Theoretical Foundation	Outcome Definition	Usefulness Results Key Findings
<p>Schoenthaler, A. M., Lancaster, K. J., Chaplain, W., Butler, M., Forsyth, J., &amp; Ogedegbe, G. (2018). Cluster randomized clinical trial of FAITH (faith-based approaches in the treatment of HTN), in Blacks. <i>Circulation, Cardiovascular Quality and Outcomes</i> 11(10), e.004691. <a href="https://doi.org/10.1161.CIROUTCOMES.118.004691">https://doi.org/10.1161.CIROUTCOMES.118.004691</a></p>	<p>Cluster RCT Level I Grade A</p>	<p>Black, ≥18 y/o, self-reported diagnosis HTN, uncontrolled BP [BP ≥140/90 or ≥130/80 mmHg with diabetes mellitus or chronic kidney disease])  n= 373</p>	<p>The faith-based, TLC + MINT consisted of (11) 90-minute weekly group sessions (intensive phase) focused on adoption of healthy lifestyle behaviors  HE group participants received 1 lifestyle session on HTN management plus 10 informational sessions on HE topics that were led weekly by health experts.</p>	<p>N/A</p>	<p>Primary outcome was change in BP (MAP, SPB and DBP) from baseline to 6 months; secondary was BP control at 9 months. The effect of lifestyle interventions on SBP persisted and remained marginally significant at 6 months although there was no comparative difference on DBP and MAP at 6 months or BP control at 9 months compared to the HE group.</p>	<p>The use of faith-based settings in those with uncontrolled HTN, yielded positive BP measurements utilizing lay health workers  Using linear mixed-effects regression models, the MINT-TLC intervention group had &gt; systolic BP reduction of 5.79 mmHg vs the HE group at 6 months (P=0.029). The treatment effect on SBP persisted at 9 months  A community-based lifestyle intervention delivered in churches led to significantly greater reduction in SBP in hypertensive Blacks compared with HE alone.</p>
<p>Wilcox, S., Parrott, A., Baruth, M., Laken, M., Condrasky, M., Saunders, R., Dowda, M., Evans, R., Addy, C., Warren, T. Y., Kinnard, D., &amp; Zimmerman, L. (2013). The faith, activity, and nutrition program: A randomized control trial in African American Churches. <i>American Journal of Preventative Medicine</i>, 44(2), 122-131.</p>	<p>Group RCT, CBPR approach Level I Grade A</p>	<p>AA, ≥18 y/o, free of serious medical conditions/ disabilities, regular church attendance  n=1257</p>	<p>15-month physical activity &amp; healthy eating activities addressing (4) structural factors (availability &amp; accessibility, physical structures, social structures, and cultural &amp; media messages) Delayed intervention</p>	<p>Social Cognitive Theory (i.e., self-monitoring)</p>	<p>Primary outcome measures included self-reported MVPA, self-reported fruit &amp; vegetable consumption &amp; improved BP measures.  Secondary outcomes were self-reported increased fiber consumption</p>	<p>Program has potential for broad-based dissemination &amp; reach  Significant effect favoring the intervention group in self-reported leisure-time MVPA (d=0.18, p=0.02) but no effects for other outcomes  A CBPR approach utilized in the church setting showed small but significant increases in self-</p>

			control group (after 15 months)  Research tools included the CHAMPS Questionnaire (strong validity, test-retest reliability) & the Fiber-Related Behavior Questionnaire (high test-retest correlations)			reported leisure-time MVPA
Su, D., Garg, A., Wiens, J., Meyer, E., & Cai, G. (2019). Assessing health needs in African American churches: A mixed-methods study. <i>Journal of Religion and Health</i> , 60(2), 1179-1197. <a href="https://doi.org/10.1007/s10943-019-00924-5">https://doi.org/10.1007/s10943-019-00924-5</a>	2-phase, Mixed-method, pilot study  Level II Grade A	(8) AA Churches, Self-identify as AA, ≥19 y/o  n=277	Cross-sectional Quantitative survey to assess status, behaviors, unmet needs & access  Qualitative interviews from leaders to assess health needs & role of church in addressing needs	N/A	Quantitative: Most reported chronic condition was HTN (60.87)  Qualitative: HTN as pressing health issue, church-based health programs are important, cost as > barrier to use	The Church is an ideal setting to address chronic conditions & improve access with adequate resources.  High prevalence of unmet health needs, chronic conditions with inadequate access
Brown, C. W., Alexander, D. S., Cummins, K., Price, A. A., & Anderson-Booker, M. (2018). Steps to a healthier heart: Improving coronary heart disease (CHD) knowledge among African American women. <i>American Journal of Health Education</i> , 49(2), 57-65.	Quasi-experimental non-randomized  Level II Grade B	Self-identify as AA or Black, women b/t 34-65 y/o  n=345	Program group (intervention w/ exercise & education); 3 interdependent components: educational, physical activity & walking program. Knowledge assessment obtained through The Coronary Heart Disease Knowledge Test; no validity or reliability of the test noted.	N/A	The participants had 2 or more risk factors (overweight/obese; HBP, blood glucose, and cholesterol, higher than recommended waist circumference) for heart disease at baseline, lack of CHD knowledge	Confirmed need for culturally-tailored, gender-specific programs to close awareness & knowledge gaps  Data analysis indicated no significant difference b/t the groups r/t knowledge, but significant differences appeared b/t pre- and posttest scores overtime. 3-way repeated-measures ANOVA & pre-post-test scores indicated differences based on education.  Increased knowledge and cultural sensitivity necessary to decrease CHD outcomes

			Comparison group (written information only)			
<p>Lynch, E., Emery-Tiburcio, E., Dugan, S., White, F. S., Thomason, C., Jenkins, L., Feit, C., Avery-Mamer, E., Wang, Y., Mack, L., &amp; Ragland, A. (2019). Results of ALIVE: A faith-based pilot intervention to improve diet among African American churches. <i>Progress in Community Health Partnerships: Research, Education, and Action</i>, 13(1), 19-30.</p>	<p>CBPR, Single-armed feasibility &amp; acceptability study</p> <p>Level III Grade B</p>	<p>5 AA churches, ≥18 y/o, access to a telephone &amp; ability to attend weekly sessions</p> <p>n=206 participant</p>	<p>A bible study &amp; small group-based nutrition education delivered by pastors and church members in (24) two-hour sessions over 9 months as well as church-wide activities.</p> <p>No Comparison group</p>	<p>N/A</p>	<p>The primary study outcome was change in number of vegetable servings consumed per day</p>	<p>Offers a promising approach to effectively improving vegetable consumption, overall diet quality and reducing weight and BP using a CBPR approach</p> <p>Daily vegetable servings increased by one serving at the 9-month follow-up (p &lt; .001). Vegetable servings increased by more than one in 47% of participants. Total diet quality also increased (p &lt; .01) and significant reductions were found in weight (-1.0 kg; p &lt; .001), SBP (-3.91 mm Hg; p = .002), and DBP (-2.18 mm Hg; p = .001).</p>

Note: RCT= randomized control trial AA=African American HTN=hypertension CHW=community health worker MVPA= moderate to vigorous physical activity CHAMPS=Community Health Assessment Activities Model for Program for Seniors TLC= therapeutic lifestyle changes MINT=motivational interviewing HE=health education CBPR=community-based participatory research BP= blood pressure SBP=systolic blood pressure DBP=diastolic blood pressure CHD=coronary heart disease

Appendix B

Summary of Systematic Reviews (SR)

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/ Recommendation/ Implications
Burton, W. M., A. N., & Knowlden, A. P. (2017). A systematic review of culturally tailored obesity interventions among African American adults. <i>American Journal of Health Education</i> , 48(3), 185-197. <a href="https://doi.org/10.1080/19325037.2017.1292876">https://doi.org/10.1080/19325037.2017.1292876</a>	Level I Grade A	N/A	Systematic review conducted for articles with weight reduction in overweight/obese individuals. Databases used to retrieve data included Cumulative Index to Nursing and Allied Health Plus with Full Text, Education Resources Information Center, Medline, Academic Search Premier, Health Source: Nursing/Academic Edition (Health Source), and Cochrane Central register of controlled trials.  Search terms included "African American adults," "obesity," and "intervention"	Studies completed from 2005 to 2015 that targeted AA, adults with an obesity focus, intervention of any quantitative design. Literature searches were delimited to peer reviewed, published between January 2005 and December 2015, English language.  Exclusion criteria included < 19 y/o, hospital sample, Culturally tailored programs were operationalized as restricting the sample to AA; restricting implementation to a specific geographical area; and using of at least one culturally appropriate strategy	Extraction included the removal of duplicates, review-based articles, irrelevant studies(primary disease focus or medical setting), non-intervention  After the 3-phase data extraction process, 8 studies met inclusion and exclusion criteria	Interventions focused on individual-level change, most were primarily female sample, in community settings	Faith-based settings appeared as ideal setting.  More interventions needed using culturally appropriate strategies.  Access to healthy, affordable foods, marketing exposure to less nutritious foods and access to safe places for physical activity are specific to AA communities and culturally-tailored interventions which address community-level & individual-level barriers can positively impact health behaviors and outcomes.
Kim, K. Choi, J. S., Choi, E., Nieman, C. L., Joo, J. H., Lin, F. R., Gitlin, L. N., & Han, H.-R. (2016). Effects of community-based health worker interventions to improve chronic disease management and care among vulnerable populations: A systemic review. <i>The American Journal of Public Health</i> , 106(4), e3.	Level I Grade A	N/A	Systematic review performed for articles with CBHWs interventions. Electronic databases searched include PubMed, EMBASE, Cumulative Index to Nursing and Allied Health Literature, and Cochrane. Hand searches of reference collections also performed.  Search terms included "vulnerable populations," "community health	Studies which were RCTs, published in English, peer-reviewed journals, tested CBHW-led interventions, adult & chronic disease focused & before August 2014 were included for review  Exclusion criteria included nonrelevant to chronic diseases, children-focused, nondatabased articles, nonintervention studies, nonvulnerable populations, conference abstracts, non-	After the discarding of duplicates, data extraction included randomization, intervention unit, setting, method of outcome attainment, time to outcome measure, theory use, types of CBHW training & specific interventions, sample selection methods, fidelity & study quality  Each study's quality was evaluated based on	The 2 most common areas for CBHWs interventions included cancer prevention & cardiovascular disease risk reduction.  Integrating CBHWs into healthcare delivery was associated with cost-effective & sustainable care.	Supports the benefits of using CBHWs with low-income, underserved, and racial & ethnic minority communities for health promotion.

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/ Recommendation/ Implications
			worker,” and “randomized controlled trials”	RCTs, no CHW involvement, focusing on diabetes before 2011, RCTs among CBHWs, reporting preliminary findings	published quality rating scales After review & data extraction process, 67 full text articles met criteria for inclusion		
Buckley, L., Labonville, S., & Barr, J. (2016). A systematic review of beliefs about HTN and its treatment among African Americans. <i>Current Hypertension Reports</i> , 18(7), 1-9. <a href="https://doi.org/10.1007/s11906-016-0662-5">https://doi.org/10.1007/s11906-016-0662-5</a>	Level I Grade B	N/A	Systematic review & synthesis of beliefs about HTN among AA. 4 searches were conducted. Electronic database searches included PubMed, Applied Social Sciences Index and Abstracts, Project Muse, Psychology and Behavioral Sciences Collection, and PsycInfo and Web of Science  Search terms included “African Continental Ancestry Group” AND “Hypertension” AND “Attitude to Health,” free text search for “African American” OR “Black” OR “Afro-American” AND hypertension AND belie* AND hypertension AND belief	Studies which were published prior to 2013, included AA participants, reported beliefs about HTN among AA were included for review  Exclusion criteria included non-English language or not translated into English, patient beliefs not examined, beliefs about HTN not examined, missing data for AA	Extraction included the discarding of duplicates.  Data collection procedures were standardized & data collected on study characteristics, participant characteristics, and outcomes.  Descriptive statistics were calculated, including 95% confidence intervals.  After the data extraction process by 2 independent authors, 22 studies met inclusion criteria	HTN attributed to stress & fatty foods. Perceived as an episodic, symptomatic disease. Strong belief in the efficacy of medications but used as needed for perceived intermittent HTN episodes or to avoid addiction or dependence. Home remedies often reported. Overall, invested in the treatment of HTN to prevent long-term complications	Highlight the complexity of patient beliefs requires the implementation of a complex, multifaceted intervention  Healthcare providers should be prepared to elicit and discuss patients’ perspectives.  Interventions designed to reconcile the difference b/t provider and patient beliefs may improve patient outcomes resulting greater adherence to prescribed health behaviors

Note: AA= African American CBHW= community-based health worker HTN= Hypertension

Appendix C

Summary of Nonresearch Evidence

Citation	Design, Level Quality Grade	Sample Sample Size	Intervention Comparison	Outcome Definition	Usefulness Results Key Findings
Warren-Findlow, J., Basalik, D. W., Dulin, M., Tapp, H., & Huhn, L. (2013). Preliminary validation of the hypertension self-care activity level effects (H-SCALE) and clinical blood pressure among patients with HTN. <i>The Journal of Clinical Hypertension</i> , 15(9), 637.	Cross-sectional survey, pilot study  Level IV  Grade B	Black, ≥ 21 y/o, self-reported HTN on ≥ 1 HTN meds  n=154  H-SCALE tool established preliminary validity for HTN self-care activities w/ clinical BP	Cross-sectional original survey & medical record extraction	Establish preliminary validation of a measure that assesses HTN self-care activities with clinical BP	H-SCALE acceptable for use in clinical practice & adherence to self-care generally aligned with decreased BP  Medication adherence significantly correlated w/ SBP (r=0.19, P<.05) Weight management significantly correlated w/ lower DPB (r=0.22, P<.05)  Increased adherence to recommended dietary practices strongly correlated w/ higher SBP (r=0.29, P<.05), and DBP (r=0.32, P<.05)
Alen, J., Forehand, J., & Miller, B. (2022). Piloting a faith-based HTN self-care program in a church setting. <i>Journal of Christian Nursing</i> , 39(4), E74-E79. <a href="https://doi.org/10.1097/CNJ.0000000000001008">https://doi.org/10.1097/CNJ.0000000000001008</a>	Quasi-experimental, pilot study with pre- and postintervention data collection  Level V  Grade B	AA, ≥ 18 y/o, HTN diagnosis or on ≥ 1 oral HTN medication  n=23  Content validity & internal consistency established for HBP-SCP scale. Reliability statistics computed for HBP-SCP subscales for pilot study	4-week educational program involving two face-to-face meetings w/ interactive learning activities	Evaluate effectiveness of a self-care intervention for HBP management in a faith-based setting.	Faith-based HBP education can raise awareness and empower patients to enhance self-care activities to improve BP.  Post intervention results reflected decreased SBP, improved BP levels in <i>normal</i> category & reduced number of participants with Stage 1 and 2 HBP. Significant improvement in behavior, motivation, & self-efficacy scores  Major challenges with HBP control were diet and exercise.

Note: HTN= hypertension H-SCALE= hypertension self-care activity level effects HBP= high blood pressure HBP-SCP= HBP self-care profile

Appendix D

Strengths, Weaknesses, Opportunities & Threats (SWOT) Analysis



**Appendix E**  
**Project Schedule**

Activity	NUR7801									NUR7802						NUR7803									
	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15		Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15
Meet with preceptor	X	X	X	X	X																				
Needs assessment/practice gap analysis	X	X																							
Create a project budget	X																								
Seek Executive leadership approval		X																							
Conduct literature review	X	X	X	X																					
Prepare project proposal	X	X	X	X	X	X	X	X																	
Obtain project stakeholder approval								X	X	X	X	X													
Obtain university EBP committee approval										X															
Obtain organization IRB approval										X															
Provide lay health worker training										X	X														
Begin project pilot implementation											X	X	X	X											
Begin data collection											X	X	X	X	X	X									
Comprehensive statistical analysis																	X	X	X						



Activity	NUR7801					NUR7802					NUR7803													
	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15
Analyze efficacy of program																				X	X	X	X	X
Evaluate feasibility and sustainability of program																					X	X	X	X
Disseminate learning to organization																						X	X	X
Celebrate program completion with gratitude gifts																								X

**Appendix F**

**Evaluation Plan**

Variable Name	Variable Description	Data Source	Possible Range of values	Level of Measurement	Categories of Measures	Timeframe for Collection	
Population	ID	Unique assigned number	Demographic & Enrollment Sheet	N/A	Nominal	N/A	Baseline
	Age	Age at start of intervention	Demographic & Enrollment Sheet	18-100	Ordinal	N/A	Baseline
	Gender	Gender	Demographic & Enrollment Sheet	0=male 1=female	Dichotomous	N/A	Baseline
	Education	Highest level completed	Demographic & Enrollment Sheet	0=No graduation, 1=High School or GED, 2=Some college, 3= Associate 4=Bachelor, 5=Master or higher	Scale	Structure	Baseline
	HTN	Systolic $\geq$ 140 Diastolic $\geq$ 90	BP Log	Systolic 140-180 Diastolic 90-120	Scale	Process, Outcome	Pre- and post-intervention
	JNC 8	Joint National Committee (8) HTN Guidelines	JNC 8 Guidelines	1=Stage 1 2= Stage 2	Scale	Structure	Pre- and post-intervention
Event	Faith-based MINT + TLC	60-minute MINT+ TLC sessions	Survey	% Favored/perceived as beneficial	Nominal	Structure, Process, Outcome, Financial Sustainability	Pre- and post-intervention
	Standard HE	30-minute weekly TLC only sessions	Survey	%Favored/perceived as beneficial	Nominal	Process, Outcome, Financial	Pre- and post-intervention
Outcome	BP (mmHg) improvement	% Decrease in mean SBP & DBP	BP Log	Systolic <120-139 Diastolic <80-89	Scale	Process, Outcome, Financial, Sustainability	Post intervention
	Medication Adherence	% Increase in "medication adherence"	H-SCALE	% Increase or Decrease	Scale	Outcome, Balancing, Financial, Sustainability	Pre- and post-intervention
	Weight Management	% Increase in "weight management"	H-SCALE	% Increase or Decrease	Scale	Process, Outcome, Financial, Balancing, Sustainability	Pre- and post-intervention

**Appendix G****Consent Form**

I am Tiffany N. Bell, a Doctor of Nursing Practice student at the University of St. Augustine for Health Sciences. I am completing a project to determine if a high blood pressure management program in a faith-based setting will reduce blood pressure measurements in African American adults.

I am seeking the assistance of African American adults, 18 years old or older with a diagnosis of high blood pressure to participate in 8 sessions focusing on strategies to increase the knowledge and management of high blood pressure. The sessions will last 45-60 minutes and will be offered weekly for two months at [name of church]. In addition, there will be three short surveys to be completed at the beginning and the end of the program.

Every effort will be made to keep all information collected and shared in group sessions private but cannot be guaranteed. Your name will not appear on the surveys.

Please understand this program is not in any way a substitute for the current high blood pressure treatment plan in place by your healthcare provider. You are encouraged to continue with that plan for the management of your high blood pressure.

Your participation and cooperation are strictly voluntary. You may leave any questions unanswered if you choose. Your attendance at all the sessions is encouraged and appreciated but not required. You are also free to withdraw from the program at any time.

Your participation and cooperation will however assist me with improving health strategies focused on managing and decreasing complications in African Americans diagnosed with high blood pressure.

A copy of this consent form will be provided to you for your records. If you have any adverse effects or concerns related to the project, please contact the program coordinator, Tiffany N. Bell at [t.bell@usa.edu](mailto:t.bell@usa.edu).

Thank you for your assistance.

Signature \_\_\_\_\_

Date \_\_\_\_\_

**Appendix H****Demographic and Enrollment Sheet****PARTICIPANT DEMOGRAPHIC SHEET****Participant Information**

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_ Age: \_\_\_\_\_

Gender:  Male  Female Phone number: \_\_\_\_\_

Mailing address: \_\_\_\_\_ Email address: \_\_\_\_\_

Race/Ethnicity:  African American  Caucasian  Hispanic/Latin American  Asian

Other: \_\_\_\_\_

Highest level of education completed:  High school  GED  Some College

Associate  Bachelor  Master or higher  Did not graduate

**Health Information**

Have you been told you have high blood pressure by a healthcare provider?  Yes  No

How long have you had a diagnosis of high blood pressure? \_\_\_\_\_ (Years)

Do you currently see a healthcare provider for your high blood pressure?  Yes  No

How often do you see your healthcare provider for high blood pressure?  Weekly

2-3 Weeks  Monthly  3-6 months  7-9 Months  Yearly

Do you currently take medication to treat your high blood pressure?  Yes  No

If yes, how many? \_\_\_\_\_

Do you experience challenges managing your high blood pressure?  Yes  No

If yes, what type of challenges?  Medication cost  Lack of knowledge

Desire/Motivation  Other (explain) \_\_\_\_\_

**Appendix I**  
**Structure of Sessions**

Initial portion: Prayer & pre-selected scripture reading
Middle portion: Teaching using a HEALTHY (high blood pressure, eating, activity, lifestyle, treatment, habits, you) format.
Final portion: An interactive ACT (awareness, change, and testimony) journal entry and group discussion

- High blood pressure: What is it?
- Eating: Why is what I eat important?
- Activity: How much should I get?
- Lifestyle: Why is it important to establish a healthier lifestyle?
- Treatment: Why is taking my medication important?
- Habits: Why should I limit alcohol and avoid tobacco?
- Y: You have the power within you to succeed.

**Introduction & Informational Session**

*Scripture:* I will instruct you and teach you in the way you should go; I will counsel you with my eye upon you. (Psalms 32:8 ESV)

- Demographic & enrollment sheet & consent form completion
- Discussion of program structure
- Program material distribution
- Blood pressure & weight measurements

**Session ONE: Hypertension.** *What is high blood pressure?*

*Scripture:* My people are destroyed from a lack of knowledge (Hosea 4:6)

- (A) Awareness: What is one behavior or habit that comes to mind that you can improve?
- (C) Change: What action will you take to improve that behavior or habit?
- (T) Testimony: How did you get the victory over that behavior or habit?

**Session TWO: Eating/Nutrition.** *Why is what I eat important?*

*Scripture:* Your body is the temple of the holy spirit. (1 Corinthians 6: 19-20)

We are God’s handiwork, created in Christ Jesus to do good works, which God prepared in advance for us to do. (Ephesians 2:10 NIV)

- (A) Awareness:
- (C) Change:
- (T) Testimony:

**Session THREE: Activity/Exercise.** *How much activity should I get?*

*Scripture:* I wish above all, that you prosper and be in good health. (3 John 2)

- (A) Awareness:

- (C) Change:  
(T) Testimony:

**Session FOUR: Healthier Living.** *Why is it important to establish a healthier lifestyle?*  
*Scripture:* The God of all grace...will himself restore you and make you strong, firm and steadfast. (1 Peter 5:10 NIV)

- (A) Awareness:  
(C) Change:  
(T) Testimony:

**Session FIVE: Medication Treatment/Management.** *Why is taking my medication important?*  
*Scripture:* If you know these things, blessed are you if you do them. (John 13:17 ESV)

- (A) Awareness:  
(C) Change:  
(T) Testimony:

**Session SIX: Habits.** *Why should I limit or avoid alcohol and tobacco?*  
*Scripture:* My grace is sufficient for you, for my power is made perfect in weakness...For when I am weak, then I am strong. (2 Corinthians 12: 9-10 NIV)

- (A) Awareness:  
(C) Change:  
(T) Testimony:

**Session SEVEN: You.** *You have all you need within you to be successful.*  
*Scripture:* God is able to bless you abundantly, so that in all things at all times, having all that you need, you will abound in every good work. (2 Corinthians 9:8 NIV)  
I pray that out of his glorious riches he may strengthen you with power through his Spirit in your inner being, so that Christ may dwell in your hearts through faith. (Ephesians 3: 16, 17 NIV)

- (A) Awareness:  
(C) Change:  
(T) Testimony:

**Session EIGHT: Sustainability.**  
*Scripture:* All things are possible for one who believes. (Mark 9:23 ESV)  
To him who is able to do immeasurably more than all we ask or imagine, according to his power that is at work within us, to him be glory. (Ephesians 3:20-21 NIV)

- (A) Awareness:  
(C) Change:  
(T) Testimony:

### **Conclusion & Gratitude Session**

- Blood pressure & weight measurements, post program survey & evaluation
- Gratitude gifts

## Appendix J

### Hypertension Self-Care Activity Level Effects (H-SCALE)

#### Scoring the H-SCALE

The H-SCALE contains items related to six, hypertension self-care activities recommended by the JNC7: taking medication, following a low-salt diet, engaging in physical activity, avoiding tobacco smoke, using strategies to maintain or lose weight, and reducing alcohol consumption. Each of these subscales is scored and then cutpoints are applied to determine the individual's adherence to the activity.

Medication (3 items)--To calculate medication adherence, add the responses for items 1-3 (range 0-21). Participants who score a 21 are considered adherent. Other measures of medication adherence use 80% adherence as the cutpoint as opposed to 100%. Note: some respondents may not have been prescribed anti-hypertensive medications.

DASH-Q (11 items; items 4-14) – These items assess intake of healthy foods associated with the nutritional composition of the DASH diet. Item #7 (“Eat pickles, olives, or other vegetables in brine?”) should be reverse coded. Responses for all items are then summed. The range should be 0 to 77. Scores of 32 and below are considered low diet quality; scores between 33 and 51 are medium diet quality; and scores of 52 or greater should be considered adherent. For researchers outside the US, these items will need additional effort to determine the culturally relevant foods. We recommend allowing for 1-2 missing items per respondent. For samples with missing items that exceed 10%, researchers may opt to lower the cut points by 1 point.

Physical Activity (2 items; 15 and 16) – Responses are summed (range 0-14). Participants who score an 8 or better are considered adherent to physical activity recommendations; all others are non-adherent. This designation was chosen to ensure that participants have to report some combination of both physical activity and exercise in order to be considered adherent. There are 2 additional items related to isometric or strength training; these are currently being piloted. No scoring instructions are currently available but these items should reflect the US Surgeon General's recommendations to do strength training at least 2 days a week.

Smoking (2 items; 19 and 20) – Responses are summed (range 0 to 14). Respondents who score zero would be considered adherent.

Weight Management (10 items; 21-30) – These ten items assess activities undertaken to manage weight through dietary practices such as reducing portion size and making food substitutions as well as exercising to lose weight. Items assessed agreement with weight management activities during the past 30 days. Response categories range from strongly disagree (1) to strongly agree (5). Sum the responses to calculate the score with a range from 10-50. Participants who reported that they agreed or strongly agreed with all 10 items (score  $\geq 40$ ) are considered to be adherent to good weight management practices.

Alcohol (3 items; 31-33) - Alcohol intake is assessed using an existing measure, the 3- item, National Institute on Alcohol Abuse and Alcoholism (NIAAA) Quantity and Frequency Questionnaire. Originally, adherence was deemed to be alcohol abstinent.

The scale was validated using Southern African Americans who were very religious and had a correspondingly high prevalence of alcohol abstinence. Participants who reported not drinking any alcohol in the last 7 days (item #31), or who indicated that they usually did not drink at all, were considered adherent. Currently, we recommend using one of two methods.

For a continuous variable, H-SCALE (Hypertension Self-Care Activity Level Effects) – 10/6/2018 5 © 2011 Jan Warren-Findlow multiply item #31 by item #32 which would indicate the total number of alcoholic drinks consumed per week (range from zero to unknown; Warren-Findlow et al., 2013. This form is useful if you are interested in doing a dose-response analysis of alcohol consumption or trying to determine the prevalence of binge drinking.

To determine adherence in the form of a dichotomous variable, we recommend scoring men and women differently. According to JNC7 guidelines, adherence to moderate alcohol consumption among men is considered  $\leq 2$  drinks/day for men (scores of 14 or less) and  $\leq 1$  drink/day for women (scores of 7 or less). Categorize the continuous form of the variable into adherent/non-adherent based on the above gender guidelines (14 or less is adherent for men and 7 or less is adherent for women). Our most recent research indicates that these adherence cutpoints are significantly correlated with systolic and diastolic blood pressure.



<p>The following questions ask about your hypertension (high blood pressure) self-care activities during the past 7 days. For each question, <u>circle</u> the number of days that you performed that activity.</p>	
<p><b><u>Medication Usage</u></b> How many of the past 7 days did you:</p>	
<p><b><u>Number of Days</u></b></p>	
1. Take your blood pressure pills?	<p>0    1    2    3    4    5    6    7</p> <p><input type="checkbox"/> I have not been prescribed blood pressure pills.</p>
2. Take your blood pressure pills at the same time everyday?	<p>0    1    2    3    4    5    6    7</p> <p><input type="checkbox"/> I have not been prescribed blood pressure pills.</p>
3. Take the recommended number of blood pressure pills?	<p>0    1    2    3    4    5    6    7</p> <p><input type="checkbox"/> I have not been prescribed blood pressure pills.</p>
<p><b><u>Diet</u></b> How many of the past 7 days did you:</p>	
<p><b><u>Number of Days</u></b></p>	
4. Eat nuts or peanut butter?	<p>0    1    2    3    4    5    6    7</p> <p><input type="checkbox"/> I am allergic to nuts.</p>
5. Eat beans, peas, or lentils?	<p>0    1    2    3    4    5    6    7</p>
6. Eat eggs?	<p>0    1    2    3    4    5    6    7</p>
7. Eat pickles, olives, or other vegetables in brine?	<p>0    1    2    3    4    5    6    7</p>
8. Eat five or more servings of fruits and vegetables?	<p>0    1    2    3    4    5    6    7</p>
9. Eat more than one serving of fruit (fresh, frozen, canned or fruit juice)?	<p>0    1    2    3    4    5    6    7</p>
10. Eat more than one serving of vegetables?	<p>0    1    2    3    4    5    6    7</p>
<p><b><u>Diet</u></b> How many of the past 7 days did you:</p>	
<p><b><u>Number of Days</u></b></p>	

11. Drink milk (in a glass, with cereal, or in coffee, tea or cocoa)?	0	1	2	3	4	5	6	7
12. Eat broccoli, collard greens, spinach, potatoes, squash or sweet potatoes?	0	1	2	3	4	5	6	7
13. Eat apples, bananas, oranges, melon or raisins?	0	1	2	3	4	5	6	7
14. Eat whole grain breads, cereals, grits, oatmeal or brown rice?	0	1	2	3	4	5	6	7
<b><u>Physical Activity</u></b> <i>How many of the past 7 days did you:</i>	<b><u>Number of Days</u></b>							
15. Do at least 30 minutes total of physical activity?	0	1	2	3	4	5	6	7
16. Do a specific exercise activity (such as swimming, walking, or biking) other than what you do around the house or as part of your work?	0	1	2	3	4	5	6	7
17. Engage in weight lifting or strength training (other than what you do around the house or as part of your work)?	0	1	2	3	4	5	6	7
18. Do any repeated heavy lifting or pushing/pulling of heavy items either for your job or around the house or garden?	0	1	2	3	4	5	6	7
<b><u>Smoking</u></b> <i>How many of the past 7 days did you:</i>	<b><u>Number of Days</u></b>							
19. Smoke a cigarette, e-cigarette, vape, cigar or hookah, even just one puff?	0	1	2	3	4	5	6	7
20. Stay in a room or ride in an enclosed vehicle while someone was smoking?	0	1	2	3	4	5	6	7

<p>The following questions ask about your efforts to manage your weight <u>during the last 30 days</u>. If you were sick during the past month, please think back to the previous month that you were not sick. <u>Circle the one answer</u> that best describes what you do to lose weight or maintain your weight.</p>					
<b><i>Weight management</i></b>					
<b><i>In order to lose weight or maintain my weight...</i></b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Not Sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
21. I am careful about what I eat.	1	2	3	4	5
22. I read food labels when I grocery shop.	1	2	3	4	5
23. I exercise in order to lose or maintain weight.	1	2	3	4	5
24. I have cut out drinking sugary sodas and sweet tea.	1	2	3	4	5
25. I eat smaller portions or eat fewer portions.	1	2	3	4	5
26. I have stopped buying or bringing unhealthy foods into my home.	1	2	3	4	5
27. I have cut out or limit some foods that I like but that are not good for me.	1	2	3	4	5
28. I eat at restaurants or fast food places less often.	1	2	3	4	5
29. I substitute healthier foods for things that I used to eat.	1	2	3	4	5
30. I have modified my recipes when I cook.	1	2	3	4	5
<p><b><i>The next three questions are about alcohol consumption. A drink of alcohol is defined as:</i></b></p> <p><b><i>One, 12 oz. can or bottle of beer;</i></b>  <b><i>One, 4 ounce glass of wine;</i></b>  <b><i>One, 12 oz. can or bottle of wine cooler;</i></b>  <b><i>One mixed drink or cocktail;</i></b>  <b><i>Or 1 shot of hard liquor.</i></b></p>					

<p>31. On average, how many days per week do you drink alcohol?</p>	<p>0    1    2    3    4    5    6    7</p>
<p>32. On a typical day that you drink alcohol, how many drinks do you have?</p>	<p>0    write in # _____</p>
<p>33. What is the largest number of drinks that you've had on any given day within the last month?</p>	<p>0    write in # _____</p>

Appendix K

Permission to Use Hypertension Self-Care Activity Level Effects (H-SCALE)

Re: [EXTERNAL] Permission to Use the Hypertension Self-Care Activity Level Effects (H-SCALE) - Message (HTML)

File Message Help

Delete Archive Move Reply Reply All Forward Create New Mark Unread Find Zoom

Re: [EXTERNAL] Permission to Use the Hypertension Self-Care Activity Level Effects (H-SCALE)

Jan Warren-Findlow <jwarren1@unc.edu>  
To: Tiffany N Bell

Fri 11/11/2022 10:01 AM

If there are problems with how this message is displayed, click here to view it in a web browser.

H-SCALE SAQ 03-08-2019.doc (65 KB)  
H-SCALE scoring instructions 10-6-2018.pdf (222 KB)  
JWF Reeve Racine DASH-Q 2016.pdf (289 KB)  
Warren-Findlow Krinner et al 2019 WJNR.pdf (119 KB)  
Warren-Findlow & Seymour 2011 JNMA.pdf (638 KB)  
JWF Dulin Tapp 2013 FINAL.pdf (87 KB)

Hi Tiffany,  
Thank you for your interest in using the H-SCALE in your research. I'm happy to chat about it's development at any time. You have my permission to use the scale in your research and to translate it into your native language, if appropriate.

The self-administered form of the H-SCALE is attached as a word document along with the scoring instructions.  
NOTE: This version is slightly different than what was published in the original JNMA article. Please read the attached scoring instructions carefully so that you understand how to score the scales and their limitations.

If you are planning on collecting the H-SCALE data in an online survey such as with a software tool like Qualtrics or Survey Monkey, that is permitted. However, permission does not include embedding the survey questions and the scoring into any kind of mobile app or mHealth application that you may be developing without my prior permission in writing. The H-SCALE is my intellectual property and is copyrighted. The H-SCALE is not available for commercial use.

The *Journal of the National Medical Association* article (Warren-Findlow & Seymour) best describes the original development of the H-SCALE. The *Journal of Clinical Hypertension* article describes the original subscales and their correlations with blood pressure. The article published in the *Journal of Nutrition Education and Behavior* describes the revised diet scale (the DASH-Q) and its validation. The most recent publication (2019) in the *Western Journal of Nursing Research* presents the current subscales and their correlations with blood pressure as well as adherence to the subscales and their association with control of blood pressure. Please cite the appropriate publication (with the correct spelling of my name "Warren-Findlow"). I understand that in some areas of the world this is not common practice to reference other works, but this is a condition of your being able to use the H-SCALE. Please indicate that you have the researcher's permission to use the scale.

Keep me informed of how your work progresses. I am always interested in hearing what others are doing in relation to hypertension self-care and blood pressure.

Please confirm that you understand and agree to the above restrictions in an email response. Let me know if you have any questions.

Sincerely, Jan Warren-Findlow

Jan Warren-Findlow, PhD @DrJanWF  
Pronouns: she/her/they  
Dept. of Public Health Sciences | UNC Charlotte  
Professor and Chair  
voice: 704/687-7968 | fax: 704/687-3644  
jwarren1@unc.edu | https://ir.k.edu/pilot.com/v/866fyzctF1sttOuD1ome1ayV9IT-oQ?u=Httm%20publichealth.unc.edu/

**Appendix L**

**Program Evaluation**

**(1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree)**

Please place a (√) by the most appropriate response to each statement.	1	2	3	4	5
The FAITH program added to my knowledge about high blood pressure.					
The FAITH program’s content was organized and easy to understand.					
The FAITH program provided me with information and strategies to better manage my high blood pressure.					
I would recommend the FAITH program to others.					
Please write your response to the following questions.					
What did you like <i>most</i> about the program?					
What did you like <i>least</i> about the program?					
What did you learn that was most helpful?					
What other topics or information would be helpful to living a healthier life?					
How can we improve our program for future participants?					

Thank you for your feedback!