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Developing a Lifestyle Modification Tool to Prevent and Manage Elevated Blood Pressure Among African Americans

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Walden University

College of Nursing

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Magdalene Oziwo

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2021

Abstract

Developing a Lifestyle Modification Tool to Prevent and Manage Elevated Blood

Pressure Among African Americans

by

Magdalene Oziwo

MS, Walden University, 2015

BS, Kennesaw State University, 2008

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2021

Abstract

Hypertension is a national medical problem that has been predominantly seen amongst African Americans. Within this community, hypertension has been associated with obesity, a sedentary lifestyle, and poor nutrition. It is for this reason that lifestyle modifications can be used as applied tools in the field of nursing in the prevention and management of hypertension among African American patients. This doctoral project was conducted to address the gap in nursing practice that currently exists for the African American population with regards to hypertension. The project focused on a nursing staff education program with 10 participants to promote the implementation of early hypertension screening and culturally appropriate lifestyle modifications for hypertension management. Based on the transtheoretical model, the project's educational program utilized concepts of behavioral change such as lifestyle and dietary modifications. Sources of evidence included journal articles, research reports, and clinical guidelines. The staff education program involved educational modules and questionnaires. The findings of the project revealed most of the participants ($n = 8$ or 80%) lacked knowledge on hypertension recognition, complications, and the nurse's role in promoting patient lifestyle changes. Following the project, results revealed all participants acquired knowledge ($N = 10$ or 100%) and positive implications through the staff implementation of early hypertension protocols, such as screening questions and lifestyle teaching sheets. The project overall emphasized potential implications for positive social change by promoting ethically appropriate treatment for African Americans. Additionally, recommendations were made for continued staff education on assessment training.

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Dedication

I dedicate this project to God Almighty, my creator, my strong pillar, my source of inspiration, wisdom, knowledge, and understanding. I also dedicate this terminal project to my wonderful children, Christabel, Efezino, Rezi, Anthony, and Evi, I am so honored and blessed to be your mother. You guys have all supported and encouraged me all the way. These encouragements have enabled me to give it all it takes to finish what I started. I appreciate you all and thank you all again for your unconditional love and support. Thank you. My love for you all can never be quantified. God bless you all. I accomplished my goal with the help of the Almighty God and my wonderful support system. With God, anything is possible.

Acknowledgments

My deepest gratitude goes to God who has provided all that was needed to complete this project and the program for which it was undertaken for. I wish to thank my committee members who were more than generous with their expertise and precious time. A special thanks to Dr. Barbara Gross, my committee chairman, for her countless hours of reflecting, reading, encouraging, and most of all patience throughout the entire process. Thank you also to Dr. Maria Ojeda and Dr. Roneisa Matero for agreeing to serve on my committee. Their excitement and willingness to provide feedback made the completion of this research an enjoyable experience. I would also like to acknowledge and give special thanks to my student advisor, Bridgette Malchow, for providing any assistance requested. I thank you all.

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Section 1: Nature of the Proposal

Among African Americans, there is an alarmingly high prevalence of hypertension (Fei et al., 2017). Statistics have revealed that African Americans are more likely to be overweight and morbidly obese as well as have a higher prevalence of physical inactivity than any other ethnicity (Fei et al., 2017). African Americans are further at risk for developing other cardiovascular diseases due to hypertension being a significant risk factor (Commodore-Mensah et al., 2018).

Additionally, a lack of participation in traditional risk reduction programs underlines the need for accessible programs that take into consideration the cultural perspective of African Americans (Forde et al., 2020). According to Anstey et al. (2017), African Americans with hypertension encounters significant challenges in maintaining optimal health. Research has shown that the self-efficacy of people with hypertension can effectively be improved by the planned implementation of self-management programs that promote health and disease prevention (Moss et al., 2019). The lack of research involving African Americans and hypertension self-care management reveals the health disparities that exist between African Americans and non-Hispanic European Americans.

This Doctor of Nursing Practice (DNP) project can positively impact the field of nursing by providing nurses with direction for educating African Americans and providing tools to prevent and manage hypertension. The purpose of this project was to address the gap in nursing practice that exists for the African American population. There are very few studies involving nursing practices that are specific to hypertension

management for African Americans. This project can provide lifestyle modification tools to assist in managing hypertension among African Americans.

Problem Statement

The engaged practice issue that this project addressed was forestalling and overseeing elevated blood pressure among African Americans. I also covered the well-being variations between African Americans and non-Hispanic European Americans, encompassing the absence of scholarly examination of self-monitoring and decreasing the danger of elevated blood pressure.

The African American population has been shown to be more overweight and have a higher prevalence of actual latency than some other racial ethnicities (Moss et al., 2019). Elevated blood pressure is a risk factor for cardiovascular disease, and it influences close to 33% of the U.S. populace between the ages 20 and 65 (Commodore-Mensah et al., 2018). An absence of research in conventional programs to decrease health risks highlights the need for projects that address this issue from the social viewpoint of African American citizens, which in turn contributes to positive social change. African Americans with elevated blood pressure experience critical difficulties in keeping up with an ideal well-being. Previous researchers have demonstrated that the self-viability of individuals with elevated blood pressure can adequately be improved by actualizing self-monitoring programs that advance well-being and illness anticipation (Moss et al., 2019). The lack of research on African Americans and elevated blood pressure self-care illustrates the well-being variations between African American citizens and non-Hispanic

European Americans involves the lack of autonomy with self-management of hypertension (Moss et al., 2019).

This DNP project can affect nursing by providing staff with information with which to instruct African American patients and with apparatuses to forestall and oversee elevated blood pressure management. There are not many scholarly investigations, including in field of nursing, related to managing elevated blood pressure among the African American population. Therefore, life-altering instruments can be utilized to oversee elevated blood pressure among African Americans. Such tools can be utilized in clinical care settings.

Purpose Statement

The motivation for undertaking this DNP project was to create an educational program for lifestyle modification to forestall and oversee elevated blood pressure management among African Americans between the ages of 20 to 65 years old. The monetary outcomes of elevated blood pressure management in the general medical services framework keep on rising and the inconveniences of management have continued to burden African American patients (Lloyd-Jones et al., 2010). Therefore, Lloyd-Jones et al. (2010) reported a need to develop a lifestyle modification educational program that address this issue. The education staff program developed with collected evidence on a dietary approaches and physical activities to prevent and manage hypertension, specifically with data on African American citizens between the ages of 20 to 65 years old who are in danger of becoming hypertensive or already have chronically uncontrolled hypertension (Commodore-Mensah et al., 2018).

Nature of the Doctoral Project

I conducted this DNP project through a comprehensive review of hypertension management of African Americans in a primary care setting. The sources of evidence were online databases, such as CINAHL, EMBASE, MEDLINE, and Cochran. Other sources of evidence included journal articles, research reports, and clinical guidelines. I used a combination of various key search terms to acquire detailed information and literature on staff education and approaches to control and manage hypertension in African Americans. Key search terms included: *African Americans and hypertension, hypertension, elevated blood pressure, staff knowledge of hypertension on African Americans, hypertension and lifestyle management, hypertension management, staff education on hypertension, Eight Joint National Committee (JNC-8) management guidelines, and JNC-8 applications*. The evidence gathered was used to create an education plan to enable both staff and patients to manage hypertension effectively to avoid cardiovascular diseases. I also used the information to analyze different topics for utilizing evidence-based resources to develop education programs.

The purpose of this doctoral project was to address the gap in practice to enable staff to help African American patients adequately manage their hypertension through providing them with lifestyle management tools.

Significance

The stakeholders identified in this project were the staff at the facility, including the director, administrative staff, nurse practitioners, staff nurses, administrative assistant staff, medical assistants, health educators, and the cardiologist.

The nurse practitioner and the staff nurse helped with the implementation of the intervention. The nurse manager and the administrative staff helped review the program. The director and the cardiologist assisted me by approving the program and educational setting. I developed this doctoral project to improve the staff's ability to provide quality care for patients through lifestyle management tools to manage their hypertension. There is potential replication of the doctoral project at other medical practices.

Regarding significance, creating treatment regimens that consider racial factors involved with hypertension in the African American community allows medical providers to offer socially based medical care that promotes social change (Whitt-Glover et al., 2010). Providing ethnically appropriate hypertension management resources for African American patients can help reduce the effect of uncontrolled hypertension and lead to accurate diagnosis and proper treatment. Additionally, the field of nursing is improved by providing nurses with tailored information for educating African American patients and tools for preventing and managing hypertension.

Summary

In this section, I demonstrated that elevated blood pressure is a recognized, global general medical problem, with African Americans having the most elevated predominance among all ethnic groups at 45% (Fei et al., 2017). Furthermore, the absence of information on preventive procedures among African Americans contributes to the high prevalence (Moss et al., 2019).

I developed this doctoral project to promote the implementation of culturally appropriate lifestyle hypertension management among African Americans in the field of

nursing practice. I used online databases to access credible sources of evidence. The DNP project took place at an outpatient clinic project site in metro Atlanta, Georgia. The stakeholders included the director, administrative staff, nurse practitioners, staff nurses, administrative assistant staff, medical assistants, health educators, and the cardiologist on site. This doctoral project improved the staff's ability to provide quality care for patients through educating the nurses on lifestyle management resources for patients' use in managing their hypertension. In the following section, I discuss the purpose and roles within this DNP project and their relevance to the nursing practice, as well as summarize utilized theories and definitions.

Section 2: Background and Context

Hypertension affects a large portion of the U.S population and typically leads to other health diseases such as myocardial infarction, renal failure, or stroke (Commodore-Mensah et al., 2018). African Americans with hypertension encounter significant challenges in maintaining optimal health (Anstey et al., 2017). The lack of research involving African Americans and hypertension self-care management reveals the health disparities that exist between African Americans and non-Hispanic European Americans. Additionally, a lack of participation of hypertensive African Americans in traditional risk reduction programs underlines the need for accessible programs that take into consideration the cultural perspective of African Americans (Forde et al., 2020). This DNP project was aimed in impacting the field of nursing tools.

Concepts, Models, and Theories

I determined that the transtheoretical model was most appropriate as the guiding concept for this project. Williams et al. (2018) and Grassi et al. (2019) showed that the transtheoretical model is a useful model for managing hypertension because it focuses on changing the individual's lifestyle. Williams et al. (2018) recommended the moderation of alcohol consumption, control of body weight, and stress reduction for hypertension treatment.

The transtheoretical model consists of several stages of behavioral change, including the precontemplation stage, contemplation stage, preparation stage, and termination stage (Williams et al., 2018). During the precontemplation stage, an individual has no intention of changing their behaviors; while during the contemplation

stage, the individual intends to act and plans to change their behaviors in the future. According to Williams et al. (2018), individuals take some significant steps in changing their behavior during the preparation stage. After the preparation stage, Cartwright et al. (2018) showed that a person's behavior changes temporarily before graduating to the maintenance stage, where the action changes permanently and healthy behaviors are adopted.

According to Ahn et al. (2016), the transtheoretical model was originally developed from the study of smokers who individually quit smoking. Besides its health and wellness application, the transtheoretical model has also been applied to academics in changing student procrastination (Cartwright et al., 2018). The stages outlined in the model enabled students to quit procrastination. In nursing, the transtheoretical model is used to change the patients' behavior to manage hypertension and other lifestyle diseases. For instance, medical practitioners can adopt the model to help patients quit alcohol and adopt exercise in their daily lives to control hypertension. The management of hypertension involves lifestyle and behavioral changes; therefore, the transtheoretical model is appropriate for the management of hypertension because it addresses behavioral changes.

Definitions of Terms Used in the Doctoral Project

African Americans: An ethnic group of Americans with total or partial ancestry from any of the racial groups of Africa. The term African American generally denotes descendants of enslaved Black people who are from the United States, while some recent

Black immigrants or their children may also come to identify as African American or may identify differently (Cherry et al., 2020).

Prehypertension: When a person's systolic blood pressure is between 120 mm Hg and 140 mm Hg or diastolic blood pressure is between 80 mm Hg and 90 mm Hg (American Heart Association; AHA, 2020; Weber et al., 2014).

Hypertension: (Also known as high blood pressure.) The excess force of blood against the walls of the arteries as the heart pumps blood to other parts of the body, resulting in disease (e.g., heart disease and stroke), which is a leading cause of death (Centers for Disease Control; CDC, 2014). The range is when a person's systolic blood pressure is >140 mm Hg or the diastolic blood pressure is >90 mm Hg or both (Weber et al., 2014).

Hypertension management: The process of treating hypertension with continued follow-up care. This includes the process of education about medication and its side effects, lifestyle modification, and continuity of care (AHA, 2020).

Lifestyle modification: Altering long-term habits, typically of eating or physical activity, and maintaining the new behavior for months or years. Lifestyle modification can be used to treat a range of diseases including hypertension (Filippou et al., 2020).

Risk factors: Factors that contribute to the development of hypertension and include advancing age; poor nutritional intakes, such as high sodium and fat intake; overweight or obesity; physical inactivity or being sedentary; family history; smoking; and diabetes (AHA, 2020).

Modifiable behaviors: Behaviors influencing high blood pressure that can be changed, reduced, or lessened in degree, including cigarette smoking, diabetes, obesity, and sedentary lifestyle (AHA, 2020).

Nonmodifiable behaviors: Behaviors influencing high blood pressure that cannot be reduced; are indispensable, necessary, or essential; and are incapable of being disregarded or neglected (AHA, 2020).

Physical inactivity: When people do not get 30 to 60 minutes of moderate activity five times per week or 20 minutes of vigorous activity three times per week or the equivalent (World Heart Federation, 2016).

Chronic disease: A human health condition or disease that is persistent or otherwise long lasting in its effects or a disease that comes with time. The term chronic is often applied when the course of the disease lasts for more than three months. Examples are hypertension, diabetes, asthma, HIV, and mental illnesses (Choucair & Palmer, 2004)

Evidence-based guidelines: A set of recommendations that can be used by clinicians that outline treatments and care for specific medical conditions (AHA, 2020).

Relevance to Nursing Practice

Clinical examinations of lifestyle changes among African Americans with hypertension have revealed improvements in blood pressure management and self-education, as well as the need for its incorporation into the nursing practice. An eight-week randomized control concentrated on the effects of way of life changes in which people randomized to activity groups were told to participate in the way of life viable actual action (Staffileno et al., 2007). Incorporation measures included African

Americans between the ages of 20 to 65 years old with elevated blood pressure or untreated, Stage 1 elevated blood pressure (Staffileno et al., 2007). The results of their study showed that people in the activity group had a large decrease in systolic pulse; an abatement in diastolic circulatory strain status to the prehypertensive level; and, more noteworthy, decreases in evening pressure load, which contrasted with the no-activity group. The researchers reasoned that given the overabundance of weight-related clinical sequelae among African Americans and the solid relationship between weight burden and target organ damage, way of life actual action might be a handy and successful technique to use among the objective populace. Elevated blood pressure was seen as a critical risk for cardiovascular diseases, and causality was related to hazard factors associating with the sector of mental pressure. The authors presumed that getting away from how African Americans see elevated blood pressure and their capacity to decrease hazard elements can help build up a model for animating the utilization of well-being-advancing conduct. There were no biases recognized by the researchers. In any case, the sample size of 47 may not consider speculation.

A few other clinical examinations have exhibited the advantage of teaching African Americans about recognizing sodium levels in arranged eating; utilizing new organic products, vegetables, and different wellsprings of nutrients such as potassium and magnesium; confining calories; and expanding actual action (Rigsby, 2011). All these studies were focused on the objective of diminishing persistent illnesses.

The educational program of DNP project also contributes to the nursing practice by offering a structure that can be used by policymakers, experts, and analysts who are

giving life adjustment intercessions to ethnic minority populaces. DNP specialists have a basic part in creating projects that will contribute to health care policies that empower hypertensive patients.

Local Background and Context

According to Anstey et al. (2017), African Americans with hypertension encounter significant challenges in maintaining optimal health. Research has shown that the self-efficacy of people with hypertension can effectively be improved by the planned implementation of self-management programs that promote health and disease prevention (Moss et al., 2019). The lack of research involving African Americans and hypertension self-care management reveals the health disparities that exist between African Americans and non-Hispanic European Americans.

I conducted this DNP project at a family health care services facility that focuses on providing medical health care and mental services to the community in the surrounding metro area of Atlanta, Georgia. This DNP project aimed to impact the field of nursing by providing nurses with information for educating African American patients and with tools for hypertension.

To address the gap in that exists in the nursing practice concerning the African American population, this project can provide lifestyle modification tools to African Americans managing hypertension. There are very few studies involving nursing practices that are specific to hypertension management for African Americans. To address this gap in nursing, the federal and state government should formulate strategies

to endorse research in managing hypertension in African Americans, this will promote appropriate and equal treatment for all ethnicities.

Role of the DNP Student

As a DNP student, one of my duties was to identify the major issues that occur in my clinical practice setting and then provide evidence-based care to patients. I noted the high prevalence of hypertension among African American patients, and this led to the creation of a program that concentrates on prevention and health maintenance through providing health education focused on promoting healthy lifestyle management, such as diet, exercise, and safety. The program I developed enables the targeted population to eat healthier and better monitor their blood pressure. The program also centered on assessment, with early screening for disease and treatment of existing health problems. I was also responsible for ensuring the results of the project were accurately analyzed and presented. The DNP education, including the practicum, provided me with the adequate skills, knowledge, and training required to be an agent of change and bridge the gap in my clinical environment.

My motivation and interest in this project stemmed from my experience working in a free clinic. I observed that many African Americans patients were unaware they had hypertension. Additionally, there is little research on African Americans' lifestyle management concerning hypertension and other cardiovascular diseases. I believed that uncontrolled hypertension needed to be addressed aggressively to effectively manage it and prevent other cardiovascular diseases. My DNP project, which focuses on planning and development of a lifestyle modification educational program to prevent and manage

hypertension among African Americans, will fill the educational gap in health care by providing staff with knowledge of evidence-based practice guidelines. I did not perceive any potential biases that affected the outcomes of the project. I was not in any way related to the staff or patients involved.

Role of the Project Team

The organization of the project team was one of the key principles to the project's success. While considering the specific goals and objectives of the project, it was my responsibility to ensure I had a good project team to be in collaboration with. Part of the project team's duties were to review the program before it was presented to management. The doctoral project team included only three individuals due to the COVID-19 pandemic: a cardiologist, a DNP nurse practitioner, and the nurse manager. The team members worked in collaboration with me, and once I discussed the content with the team members, they reviewed the project and shared their expertise and appropriate insights (see Chaghari et al., 2017).

Upon the completion of the program, I gained the approval of the three project team members to do a PowerPoint presentation of the staff education project (see Chaghari et al., 2017). I provided copies of the presentation to them to review and offer their suggestions. The following week, the project team members met with me to provide additional feedback. I then carried out any suggested corrections to develop an acceptable program that was deemed efficient not only for the staff, but the targeted patient population for the doctoral project.

Summary

I used the transtheoretical model to form the presented education of the DNP project. The model effectively outlines the stages of behavioral change. The principle of behavioral change equipped the nursing staff as well as African American patients in self-management skill to improve lifestyle choices and treat hypertension. In addition to transtheoretical model, key terms and definitions were utilized in guiding the DNP project including *African American*, *hypertension*, and *modifiable behaviors*.

The formation of the DNP project educational program as a lifestyle modification tool for hypertension among African Americans was also achieved through the essential roles of the DNP student and project team. As the DNP student, I used my observations and skills to fulfill my duties and collaborated with the expert panelists of my project team.

Ultimately, the DNP project contributed to the nursing practice by offering socially based nursing care that empowers the patient through self-sufficiency and lifestyle modification. In the following section, the conducted research and generated evidence will be analyzed and discussed.

Section 3: Collection and Analysis of Evidence

In this doctoral project, I carried out a comprehensive review of hypertension management among African American patients in a primary care setting. I presented the final plan for the project to the organizational leadership with the expert panelist validating the accuracy of the content. Nurse staff were educated on early screening and implementing lifestyle modification of hypertension prevention and management. The project consisted of a pretest that was carried out in form of a questionnaire, followed by the implementation of the staff education program. After the educational program presentation, a posttest was given to evaluate the knowledge acquired by the participants.

Practice-Focused Question

This project addressed the gap in practice concerning hypertension management among African Americans. At the project site, there were no specific hypertension management guidelines fashioned towards African Americans. This gap in practice was the focus of this project. Nursing practices were not fully taking into consideration the challenges the targeted population faces with hypertension and its comorbidities. These challenges include inaccessibility and a lack of participation in health promotion programs, leading to a higher risk for cardiovascular disease (Forde et al., 2020). There is a need for nursing practices that are better equipped to provide tools that are efficient in treating African Americans with hypertension.

The practice-focused question for this project was: Will an educational program for nurses improve appropriate early hypertension screening and management through lifestyle modification for African Americans in the metro area of Atlanta, Georgia? This

staff education project promoted the implementation of lifestyle modifications as a tool of hypertension management for nursing practice (see Chaghari et al., 2017). In addressing the practice-focused question, I used principles listed in the Walden University's Staff Education Manual for the development, implementation, and evaluation of this DNP project education program (Walden University, 2019). The methods described in the Staff Educational Manual aligned with the practice-focused question because the DNP project was also a staff education project; hence, the manual was used to evaluate whether such a DNP program would improve appropriate early hypertension screening and management through lifestyle modification for African Americans in the metro area of Atlanta, Georgia.

Through utilizing the educational manual, this doctoral project was further supported by DNP Essentials I and II. They derive from a list of curricular elements created by the Commission on Collegiate Nursing Education required by accredited DNP programs. DNP Essential I is stated as "scientific underpinnings for practice" and concerns the skills and knowledge required to formulate change (American Association of Colleges of Nursing, 2006). Scientific foundations were therefore utilized to achieve the purpose of this doctoral project, specifically in researching and creating an educational program for lifestyle modification with African Americans hypertension. DNP Essential II is stated as "organizational and systems leadership for quality improvement and systems thinking" (American Association of Colleges of Nursing, 2006). I utilized Essential II through my collaboration with the project team in translating and applying collected evidence into this DNP staff education program.

Sources of Evidence

I located the sources of evidence to address the practice-focused question through a comprehensive review of the extant literature on hypertension management of African Americans in a primary care setting, the prevalence of the problem, lifestyle management, evidence-based interventions, and evidence-based approaches to evaluate the project (see Peterson et al., 2014; Terry, 2018).

Published Outcomes and Research

I performed a literature search by using different search engines, such as Google Scholar, and the academic databases accessible through the Walden University Library, such as ProQuest, the Cumulative Index to Nursing and Allied Health Literature, Cochrane Library, PubMed, and Elton Stevens Company. To acquire detailed information and literature on staff education and approaches to control and management of hypertension in African Americans, I used the following key search terms and combinations of search terms: *hypertension*, *African Americans and hypertension*, *staff knowledge of hypertension on African Americans*, *hypertension management*, *evidence-based approach to hypertension on African Americans*, *staff education on hypertension*, *hypertension and lifestyle management*, *JNC-8 applications*, *JNC-8 guidelines*, and *management guidelines*.

The inclusion criteria for this literature review included peer-reviewed journals and reviews of scholarly information that were published within the last 5 years. The hypertension control and management guidelines by the JNC-8 served as the basis for the educational framework of the program.

Evidence Generated for the Doctoral Project

Participants were all medical personnel, including a cardiologist, nurse practitioner, and licensed registered nurses from the outpatient clinic project site in metro Atlanta, Georgia. Participants ($N = 10$) included both men and women to limit gender bias (see Chaghari et al., 2017). The staff education program focused on the importance of appropriate early hypertension screening and management through lifestyle modification for African Americans in metro Atlanta, Georgia. This staff education project promoted the implementation of lifestyle modifications for hypertension management for nursing practice (see Chaghari et al., 2017). The education session was four hours of PowerPoint lesson presentation, with two hours for each topic. I asked the three expert panelists, the cardiologist, nurse practitioner, and licensed registered nurse, who comprised the project team members to review the program. I sent the program to the organizational leadership and expert panelists to address any concerns and give feedback about the presentation. Once all the necessary revisions were complete, I presented the PowerPoint presentation to the organizational leadership, and they validated the content.

The presentation comprised of multiple sections, including an introduction and overview of the content. During the introductory section, I introduced myself, the nurse practitioner, nurses, and staff educators to the participants and explained what would be presented. Other sections included the definitions of hypertension and elevated blood pressure, the need for early diagnosis, and appropriate management of hypertension through lifestyle modification. I also discussed weight reduction, physical activity,

protection of targeted organ damage, the follow-up process, and communication skills with cultural awareness to improve early screening.

During the project, I used test questions modeled after the Questionnaire for Hypertensive Patients (QHP) for the staff education pre- and post-test screening training. The QHP questionnaire itself consists of 23 items divided into four sections: diagnosis of hypertension, management of hypertension, complications, and hospitalization, and medications, and adherence (World Health Organization, 2005). The QHP is easily accessible on the World Health Organization's website, and no approvals are required. The QHP is in a pen-and-paper format, and I administered it twice. The pre- and post-education was used to evaluate staff understanding after the educational presentation (see World Health Organization, 2005). Not only did the QHP effectively act as a pre- and post-test staff questionnaire template, but I also used it to educate the staff as an example of the early hypertension screening questions that should be used to appropriately assess patient knowledge on diagnosing and managing hypertension and medication adherence.

I used the Dietary Approach to Stop Hypertension (DASH) initiatives and lifestyle changes to educate the staff I also selected it as the guiding concept the nurse staff will use to promote patient dietary changes during hypertension management. . In addition to the Dash initiatives, lifestyle medication were the principal tools guiding this DNP project to prevent and manage hypertension among African Americans. I educated the staff on common lifestyle modifications and complications associated with hypertension. The suggested lifestyle modifications tools to be used with hypertensive African American patients involved teaching on smoking cessation, moderate alcohol

consumption, control of blood glucose, and lipids, physical activities at least three to four times a week for 40 minutes, and changes in diets to include reduce sodium and a low-fat diet. According to Filippou et al. (2020), modifications for reducing high blood pressure and controlling hypertension include diet changes, increase in physical activity, smoking cessation, and weight loss. DASH served as the dietary modification concept for this project. The DASH initiatives encourage the use of diets that promote low-fat dairy and are rich in vegetables and fruits as well as increasing physical activity and reducing salt intake to improve blood pressure levels (Filippou et al., 2020).

Protection

To protect the confidentiality of the participants, I kept their personal information and their pre- and post-test results locked in the office of the administrator. Since the project was based on staff education, the identities of all staff were protected. Although no ethical problems are expected, measures were still taken to ensure ethical protections. This was achieved by making sure participants understood the objectives of the project, the risks of the associated project, and the inclusion criteria. I also informed the participants that I kept the collected information on hard copies that were locked in a cabinet for the duration of the project. After the completion of the project, the information collected will be destroyed in four years.

The role of the Institutional Review Board (IRB) is to ensure that all Walden University research complies with the university's ethical standards as well as U.S. federal regulations. I received approval to conduct this project from Walden University

IRB and the DNP project committee. The Walden IRB approval number is 05-25-21-0444083.

Analysis and Synthesis

I used a Likert-type questionnaire to evaluate the knowledge of the nursing staff before and after the staff education project. The questions are displayed in Appendices A and B. Both questionnaires reflected the QHP format and consisted of six sections: diagnosis of hypertension, patient self-management, intervention measures, medication adherence, patient education, performance measurement, and lifestyle modifications. The questions also addressed the effectiveness of the educational program and its effects on the nursing staff's understanding diagnosing and managing hypertension in African Americans through lifestyle modification. I used the pretest to assess staff knowledge about early diagnosis and hypertension management. After the delivery of the educational program, I administered a posttest to evaluate their knowledge retention about the QHP-based hypertension screening and management.

I equated the percentages scores to determine whether the nurses and other staff members gained knowledge regarding culturally appropriate mental health assessment. I also used descriptive statistics, such as percentages, averages, and frequency, to compare the pre- and post-test scores.

Summary

The purpose of the DNP project was to create an educational program for the clinical nursing staff based on JNC-8-validated questionnaires to assess the knowledge of nursing staff pre- and post-staff education programs. I used various hypertension

guidelines, journals, books, and other sources of evidence when developing the educational program. I evaluated the effectiveness of the education program using the pre- and post-education questionnaires. I also used the Likert scale to evaluate the responses from the staff to answer the practice-focused question. In Section 4, the findings and implications, recommendations, and strengths and limitations of the project will be discussed.

Section 4: Findings and Recommendations

This DNP project was aimed at bridging the identified gap in the nursing practice concerning African Americans and hypertension. As the project, I developed a nursing staff education program on early screening and giving lifestyle modification guidelines for hypertension prevention and management. The guiding practice-focused question for this project was: Will an educational program for nurses improve appropriate early hypertension screening and management through lifestyle modification for African Americans in metro Atlanta, Georgia? I located the sources of evidence to address the practice-focused question through a comprehensive review of journal articles, research reports, and clinical guidelines on evidence-based approaches to hypertension on African Americans and staff education on hypertension. Based on my obtained evidence, I developed an education module involving lecture presentations and pre- and post-test questionnaires. Staff knowledge was evaluated and analyzed as evidence addressing the project's practice-focused question. In the following subsections, I discuss the findings and implications of the project as well as offer recommendations and summarized key points, strengths, and limitations of the project.

Findings and Implications

Before presenting the lecture portion of the staff educational program, I gave a pretest questionnaire to determine the staff's knowledge of the JNC-8 guidelines on managing hypertension and QHP-based screening concerning African Americans. The pretest questionnaire (see Appendix A) included questions on the JNC-8 guidelines for hypertension recognition (Questions 1–3); complications of hypertension (Questions 4

and 5); DASH initiatives and lifestyle changes (Questions 6–8); patient education and self-management (Questions 9–11); and the role of nurses as health educators, facilitators, and promoters of good health (Questions 12–15). The staff consisted of 10 participants ($N = 10$) and specific questions from the pretest questionnaire revealed that the staff had an insufficient baseline knowledge about hypertension. At least 60% ($n = 6$) of the participants disagreed with Questions 1-5 and 12-15. These particular questions revealed a knowledge gap on JNC-8 guidelines for hypertension recognition (Questions 1–3); complications of hypertension (Questions 4 and 5); and the role of nurses as health educators, facilitators, and promoters of good health (Questions 12–15).

Pretest Questionnaire

Regarding Questions 1-3, the majority of the participants ($n = 8$ or 80%) were unaware of the JNC-8 guidelines on systolic and diastolic BP reading requirements for patients aged 60 years or older. The same trend was seen for the BP reading requirements of patients aged 18 to 59, with the majority of the participants in disagreement ($n = 8$ or 80%). For Question 1, only a few participants ($n = 3$ or 30%) agreed with the JNC-8 definition of hypertension. Additionally, a knowledge gap was displayed regarding the complications of hypertension. With Question 5, seven participants ($n = 7$ or 70%) somewhat disagreed with the asymptomatic trait of hypertension that eventually develops into target organ diseases.

There was also disagreement on the nurse's role as health educators, facilitators, and promoters of good health for Questions 12-15. The majority of the staff ($n = 7$ or 70%) were unaware of being capable of educating patients on self-managing

hypertension. Some of the staff also did not know that promoting healthy beliefs for patients increases their belief in the ability to attain set goals. Additionally, the same number of participants ($n = 6$ or 60%) did not know that nurses can influence patient behavior by providing new resources to them. Lastly, I found that some of the participants ($n = 7$ or 70%) were not fully aware that nurses can facilitate patients in making lifestyle changes. On the other hand, the remaining questions statements revealed that the staff had sufficient knowledge on DASH initiatives and lifestyle changes (Questions 6–8) and patient education and self-management (Questions 9–11).

Posttest Questionnaire

After the nursing staff took the pretest questionnaire, I presented the DNP project staff education program that consisted of four hours of a lecture presentation. After the educational program presentation, a posttest was given to the staff to evaluate the knowledge acquired by the participants. The posttest questionnaire (see Appendix B) contained all the questions of the pretest questionnaire with the addition of two questions asking for participant evaluation of the education module. In all the questions, participants were in agreement with the question statements on hypertension diagnoses, JNC-8 lifestyle guidelines management, and nurse assistance in patient education. Furthermore, all the participants ($N = 10$ or 100%) believed the education program has influenced their hypertension knowledge and agreed to include QHP-based hypertension screening in their care (see Questions 1 and 2 in Appendix B). In summary, results of the pretest questionnaire indicated that the participants lacked knowledge of the JNC-8 guidelines before the staff education program. The results of the posttest questionnaire

indicated that the nursing staff gained insights on hypertension recognition, hypertension complications, and their role as nurses against hypertension.

Implications

These results reveal that the staff education program had positive implications for the nursing staff. In particular, the individual nurses have improved their understanding of hypertension and the role they play for their patients. The most important implication that followed the educational program was the implementation of QHP-based hypertension screenings by nurses. With regards to the focus of this DNP project, nurses now exercise early hypertension protocols with patients that are clinically at risk for hypertension. This involves asking patients hypertension screening questions and giving hypertensive patients teaching sheets on management and lifestyle modification. This change in practice will be especially administered with patients in the African American community who are particularly at risk for hypertension. With the nursing staff's gained knowledge and implemented hypertension protocols, an efficient effort has been made to bridge the gap in practice concerning hypertension management specific to African Americans, which was the aim of this project.

Additionally, the lack of knowledge that was observed through the results of the pretest questionnaire was unanticipated. These findings emphasized the need for primary care clinics to provide regular staff education programs using evidence-based practice guidelines. This need is seen with the beneficial implications the education program had on my institution. My primary care clinic adopted my education program and has further implemented its principles in other related health modules. The health care system as a

whole benefits with regards to increased effectiveness in addressing and finding solutions to close the gap in nursing practice for hypertension management for African Americans.

Additionally, the results of the project further contributed to positive social change as an implication by promoting awareness of the need for medical providers to give a socially based treatment regime. Providing African American patients with ethnically appropriate knowledge of hypertension management will help reduce the effect of uncontrolled hypertension, leading to accurate diagnosis and treatment.

Recommendations

The panel of experts in this project deemed the education module adequate for implementation at the primary clinic. I recommend that further actions be taken by the management to develop policies that include continuing nursing staff education using JNC-8 guidelines on hypertension. Continued nurse education could include training nurses using patient intervention, lifestyle modification, and assessment modules. Another recommendation involves the clinic management team encouraging additional DNP research projects to provide nursing staff with current clinical evidence to continue improving practice. These recommendations can further address the gap in practice on hypertension as well as on patient education and self-management.

Strengths and Limitations of Project

A major strength of this project was its reliance on a panel of experts that offered corrections and recommendations for the education program. Another strength of the project was the use of pre- and post-test questionnaires to analyze the obtained knowledge of the staff. This staff education study involved participants with varying

background experiences and education, adding to the strength of the project. Lastly, a large portion of the project's success came from the willingness of the staff to participate in the educational program to improve their knowledge and, ultimately, clinical care.

Despite its strengths, I identified various limitations to the project. One was the lack of continued follow up with nursing staff to determine the long-term impact of the project on clinical care. Another limitation of this project was that it was limited to a small sample size. Though the focus of the project was on the specific clinic, the small sample size limited the results from being representative of other clinical settings.

Summary

The goal of this project was to develop an educational program to educate the nursing staff on the prevention and management guidelines of hypertension and apply the obtained knowledge to the African American community that is most at risk. Through the panelist-approved questionnaires and module presentations, the results of the project revealed that I achieved the proposed goal. The project demonstrated that an education module on current evidence-based guidelines can be used to analyze and improve staff knowledge on a topic. In Section 5, I will describe my DP project dissemination plans as well as my time as a DNP student.

Section 5: Dissemination Plan

Disseminating a DNP project is important so that it contributes to the field of nursing and further increases knowledge that can be applied and used by many. Primary care clinics in the vicinity could benefit from the dissemination of the components and results of the educational project, specifically those that are facing similar insufficient staff knowledge on hypertension and insights on its relations to the African American community. Appropriate venues could include staff in-services and on-the-job training. Additionally, the project could provide links to websites, such as JNC-8 guidelines, that other institutions can utilize. Publication of the project could also be an accessible forum for disseminating the findings through scholarly journals and health care publications.

Analysis of Self

Through this DNP project journey, I have developed my research and knowledge acquisition skills. I have been shaped into a scholar as I learned to find relevant knowledge and present my findings in the form of educational modules. I also learned to effectively educate the nursing staff and address the knowledge gap problems. As a DNP student, presenting my project allowed me to combine my research skills and clinical knowledge to teach the staff. By playing the role of a scholar, practitioner, and project manager, I ultimately was able to teach the staff to better work with patients and encourage self-management. These skills are part of the DNP Essentials learning process defined in *The Essentials of Doctoral Education for Advanced Nursing Practice* (American Association of Colleges of Nursing, 2006). The aim of the project was achieved, and I will continue focusing on ways to provide ongoing staff education

opportunities. I will continue playing my role through consulting with the clinic staff to develop training materials on current, evidence-based practice guidelines related to primary care.

Conclusion

In conclusion, the application of an educational program is crucial in addressing the knowledge gap that exists regarding hypertension and its relation to the African American community. In this project, I provided the nursing staff at the project site with an educational program on the prevention and management guidelines of hypertension through panelist-approved questionnaires and module presentations. With the use of current, evidence-based guidelines, such as DASH initiatives and JNC-8 guidelines on hypertension, the goal of staff knowledge improvement was ultimately achieved. This improvement was shown through questionnaire results that revealed the knowledge acquisition of the nursing staff. The implementation of the education module improved the nursing staff's knowledge of hypertensive African Americans, and this applied knowledge improved clinical care through a focus on patient self-management of hypertension in the primary care setting.

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Appendix A: Pretest Questionnaire

PRETEST	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
1. Hypertension is defined as persistent systolic blood pressure 130 mm Hg, diastolic blood pressure 80 mm Hg, or current use of antihypertensive medication.	30% (n=3)	40% (n=4)	0% (n=0)	0% (n=0)	30% (n=3)
2. Patients should be evaluated for hypertension when blood pressure is 150/90 mm Hg or higher in adults 60 years and older.	80% (n=8)	10% (n=1)	10% (n=1)	0% (n=0)	0% (n=0)
3. Patients should be evaluated for hypertension when blood pressure is 140/90 mm Hg or higher in adults aged 18 to 59.	80% (n=8)	10% (n=1)	10% (n=1)	0% (n=0)	0% (n=0)
4. Hypertension complications can result in cardiovascular disease, cerebrovascular disease, and peripheral vascular disease.	0% (n=0)	0% (n=0)	0% (n=0)	80% (n=8)	20% (n=2)

5. Hypertension is frequently asymptomatic until it becomes severe and target organ disease occurs.	0% (n=0)	70% (n=7)	10% (n=1)	20% (n=2)	0% (n=0)
6. JNC-8 guidelines state hypertension can be controlled by lifestyle modification, such as eating healthy, increasing exercise, quitting smoking, weight management, and moderation of alcohol consumption.	0% (n=0)	0% (n=0)	0% (n=0)	20% (n=2)	80% (n=8)
7. JNC-8 supports the Dietary Approach to Stop Hypertension (DASH) initiatives diets, it promotes that are rich in vegetables and fruits, low-fat dairy, and lean protein, as well as physical activity and salt intake reduction.	0% (n=0)	0% (n=0)	0% (n=0)	40% (n=4)	60% (n=6)
8. JNC-8 guidelines promote lifestyle modifications such as reducing salt intake to no more than 2,400 mg a day,	0% (n=0)	0% (n=0)	10% (n=1)	50% (n=5)	40% (n=4)

engaging in physical activity, 3 to 4 days per week for an average of 30 minutes per day.					
9. JNC-8 guidelines promote patient adherence to medication and encourage lifestyle modification.	0% (n=0)	0% (n=0)	30% (n=3)	50% (n=5)	20% (n=2)
10. Patient education on self-management of hypertension will assist in patient self-managing their diagnosis.	0% (n=0)	0% (n=0)	20% (n=2)	50% (n=5)	30% (n=3)
11. Patients can use goal setting, self-monitoring, self-instruction, and social support resources to help control hypertension.	0% (n=0)	0% (n=0)	0% (n=0)	20% (n=2)	80% (n=8)
12. Nurses can help promote healthy beliefs, behaviors, and attitudes among patients to assist in hypertension management.	20% (n=2)	40% (n=4)	10% (n=1)	20% (n=2)	10% (n=1)
13. Nurses can serve as educators and facilitators to help patients make lifestyle	30% (n=3)	40% (n=4)	20% (n=2)	0% (n=0)	10% (n=1)

changes that will prevent hypertension, and its complications.					
14. Nurses, through patient education on self-management, can assist patients to self-manage their hypertension and attain set goals.	30% (n=3)	40% (n=4)	10% (n=1)	10% (n=1)	10% (n=1)
15. Nurses can influence patient behavior by providing new resources or structures.	20% (n=2)	40% (n=4)	30% (n=3)	0% (n=0)	10% (n=1)

Appendix B: Posttest Questionnaire

POSTTEST	Completely disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Completely agree
1. I plan to include hypertension screening as a part of every patient visit in the future.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
2. Taking the educational program has changed the way I think about hypertension and screening among patients not previously diagnosed.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
3. Hypertension is defined as persistent systolic blood pressure 130 mm Hg, diastolic blood pressure 80 mm Hg, or current use of antihypertensive medication.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
4. Patients should be evaluated for hypertension when blood pressure is 150/90 mm Hg or higher in adults 60 years and older.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)

5. Patients should be evaluated for hypertension when blood pressure is 140/90 mm Hg or higher in adults aged 18 to 59.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
6. Hypertension complications can result in cardiovascular disease, cerebrovascular disease, and peripheral vascular disease.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
7. Hypertension is frequently asymptomatic until it becomes severe and target organ disease occurs.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
8. JNC-8 guidelines state hypertension can be controlled by lifestyle modification, such as eating healthy, increasing exercise, quitting smoking, weight management, and moderation of alcohol consumption.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
9. JNC-8 supports the Dietary Approach to Stop Hypertension (DASH)	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)

initiatives diets, it promotes that are rich in vegetables and fruits, low-fat dairy, and lean protein, as well as physical activity and salt intake reduction.					
10. JNC-8 guidelines promote lifestyle modifications such as reducing salt intake to no more than 2,400 mg a day, engaging in physical activity, 3 to 4 days per week for an average of 30 minutes per day.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
11. JNC-8 guidelines promote patient adherence to medication and encourage lifestyle modification.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
12. Patient education on self-management of hypertension will assist in patient self-managing their diagnosis	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
13. Patients can use goal setting, self-monitoring, self-instruction, and social	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)

support resources to help control hypertension.					
14. Nurses can help promote healthy beliefs, behaviors, and attitudes among patients to assist in hypertension management.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
15. Nurses can serve as educators and facilitators to help patients make lifestyle changes that will prevent hypertension, and its complications.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
16. Nurses, through patient education on self-management, can assist patients to self-manage their hypertension and attain set goals.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)
17. Nurses can influence patient behavior by providing new resources or structures.	100% (n=10)	0% (n=0)	0% (n=0)	0% (n=0)	0% (n=0)