

2020

## Hypertensive Self Care: An Educational Tool for Advanced Practice Nurses

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*Walden University*

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# Walden University

College of Health Sciences

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Kelisia Burks McKay

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Walden University

2020

Abstract

Hypertensive Self-Care:

An Educational Tool for Advanced Practice Nurses

by

Kelisia Burks McKay

MS, Loyola University, 2004

BS, Dillard University, 1996

Project Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Nursing Practice

Walden University

February 2020

## Abstract

Poorly controlled hypertension is a serious public health problem. Persons with high blood pressure are required to perform a variety of self-care behaviors. Advance practice nurses can improve health outcomes for hypertensive patients when they provide self-care education along with prescribing appropriate medications needed to treat high blood pressure. The purpose of this study was to educate rural advance practice nurses about hypertension medication and self-care management using the Hypertension Self-Care Activity Level Effects (H-SCALE) and the 8<sup>th</sup> National Joint Committee (JNC- 8) hypertensive guidelines. Twelve primary care advanced practices nurses (APN's) participated in an educational presentation that included pre and posttests to evaluate their knowledge about hypertensive patient's self-care activities and first-line medications for hypertensive management. Orem's self-care deficit nursing theory informed the project. Posttest results showed a significant improvement in self-care behaviors and medication knowledge base when compared to the pretest findings. Seventy percent of APN's became aware of new self-care behaviors through the H-Scale, and all reported improved understanding of JNC-8 guidelines. There was also an 80% improvement in the awareness of the first-line medications used to treat hypertensive patients. All of the APN's reported that the self-care module would change the way they treated their hypertensive patients. Getting patients involved in their care is the primary way of improving their lives. This project supports positive social change by educating advanced practice nurses and providing them with the ability to change patient behaviors to improve their health through patient self-care education and healthy lifestyle changes.

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## Dedication

I would like to dedicate this work to my daughter, my husband, and the great God of heaven in whom all things are possible.

## Acknowledgments

I would like to give a special thank you to all of the Walden University faculty, staff, and advisors. I also want to acknowledge Dr. Joanne Minnick and the DNP committee members who worked with her on my behalf to help me bring this project to completion.

## Table of Contents

List of Tables .....	iii
Section 1: Nature of the Project .....	1
Introduction.....	1
Background.....	2
Purpose Statement.....	3
Research Question .....	3
Significance of the Project .....	3
Reduction of Gaps.....	4
H-Scale.....	5
Implications for Social Change.....	6
Definitions and Terms.....	7
Assumptions and Limitations .....	8
Summary.....	9
Section 2: Background and Context .....	10
Introduction.....	10
Sources of Evidence.....	11
Theoretical Framework.....	12
Role of the DNP Student.....	15
Role of the Project Team .....	16
General Literature .....	16
Specific Literature.....	20



Section 3: Collection and Analysis of Evidence.....	26
Introduction.....	26
Approach.....	27
Methodology and Design.....	27
Reliability and Validity.....	30
Summary.....	31
Section 4: Findings and Recommendations.....	33
Introduction.....	33
Findings and Implications.....	34
Recommendations.....	35
Strength and Limitations of the Project.....	36
Summary.....	37
Section 5: Dissemination Plan.....	38
Analysis of Self.....	38
Summary.....	39
References.....	41
Appendix A: H-SCALE Permission Approval.....	47
Appendix B: Pre-Educational Questionnaire.....	49
Appendix C: PowerPoint.....	51
Appendix D: Post Educational Questionnaire.....	62

List of Tables

Table 1. Posttest results.....35

## Section 1: Nature of the Project

### **Introduction**

Hypertension is one of the most common diseases treated in primary care (Krader, 2014). About one-third of adults have high blood pressure in this country (Weber et al., 2014). Hypertensive control remains a challenge despite the availability of effective treatment options (Nguyen et al., 2016). Weber et al. (2014) reported fewer than half of all hypertensive patients have adequately controlled blood pressure readings.

Hypertension is responsible for most of the cardiovascular-related deaths in the United States (Hu, 2014). According to the Center for Disease Control (2013), hypertension is a systolic blood pressure reading higher than 130 mmHg or a diastolic blood pressure reading greater than 90 mmHg. Weber et al. (2014) characterized hypertension as a systolic reading greater than 140 mmHg and a diastolic reading greater than 90 mmHg together on two different occasions 1 to 4 weeks apart. There is substantial evidence in the literature for better control of hypertension that will reduce kidney and coronary disease related complications. Rural populations have an increased prevalence of developing chronic illnesses that are often poorly controlled (Li, Hu, Dong, Xie, & Zhou, 2015). Chow et al. (2013) further add that new strategies and programs need to be implemented to target hypertensive health care disparities in rural communities. One way to improve the gap in healthcare is to involve patients in their care (Motlagh, Chaman, Sadeghi, & Eslami, 2016). The advanced practice nurse (APN) can be a catalyst for change with hypertension by combining current clinical practice guidelines and patient centered hypertensive care (Dennison-Himmelfard & Commodore-Mensah, 2016).

## **Background**

Poorly controlled hypertension and lack of provider awareness in rural populations is the health problem of focus for the proposed Doctor of Nursing Practice scholarly project. The project originated in a rural health clinic in the southern region of the United States. The rural clinic (RC) was owned and operated by a critical access hospital. It served as the main source of primary care services in the area. Initially, the clinic was nurse practitioner managed and served the health care needs of the uninsured. The RC also helped those who received Medicaid, Medicare, KID-MED wellness, and vaccines visits. Within the past three years, the RC has grown to include two full-time family practice physicians, two APN's, and has expanded hours and services. The clinic now serves patients with various health insurances; provide employee health services for hospital employees; contracted sick and minor accident visits for a local business; and maintains an after-hours walk-in clinic. Throughout the recent growth and expansion of clinic services, a common theme has become evident among the patients in this community. Multiple patients have hypertension that is undiagnosed or uncontrolled. Many patients with hypertension have risk factors for other chronic illnesses such as obesity, hyperlipidemia, and type 2 diabetes (Allen et al., 2018). There is, however, a direct link between uncontrolled hypertension and increased incidences of cardiovascular disease (Weber et al., 2014). One in four adults over the age of 18 is hypertensive in the southern region of the United States (CDC, 2015). More than 40% of African Americans and 30% of Caucasians have hypertension in southern, rural regions of this country (CDC, 2015). Between the years 2011 and 2014 a CDC study identified that 84.1% of

the participants were aware they had hypertension, 76.1% of those persons reported taking their medications regularly, but their blood pressures were still poorly controlled. These findings are consistent with the patients seen in the clinic site for this project.

#### Problem Statement

The problem to be addressed by this project is the lack of APN awareness regarding hypertensive self-care measures in the rural, southern region of the United States.

#### **Purpose Statement**

The proposed doctoral project will be significant to the field of nursing practice as it will do the following:

1. Create provider-based awareness of the complexities of caring for rural health patients with hypertension.
2. Educate primary care providers on the current treatment guidelines associated with hypertension.

Improve the self-care knowledge base of APN's and other primary care providers through the use of the Hypertension Self-Care Activity Level Effects (H-SCALE).

#### **Research Question**

Does the evidence support the development of an education action plan for APN's that will improve self-care behaviors in patients with hypertension in a rural southern United States primary care clinic?

#### **Significance of the Project**

Hypertension causes about 13% of all deaths worldwide and is a significant public health problem (Lo, Chau, Woo, Thompson, & Choi, 2016). Hypertension is one of the

most prevalent chronic diseases in the United States (US) affecting one third of the adult population (Warren-Findlow, Basalik, Dulin, Tapp, & Kuhn, 2013). Lo et al. (2016) estimated that about 67 million people have high blood pressure in this country. There are multiple complications associated with hypertension such as “devastating strokes, cardiovascular events, and kidney failure” (Weber et al., 2014, p. 14). Premature morbidity and “mortality can further create burdens for hypertensive individuals, their families, and society” (Han et al., 2014, p. E11).

In considering stakeholders for this project, persons with hypertension, their families, primary care providers, and the health care community all have a vested interest in the outcomes of the project. APN’s and hypertensive patients are the stakeholders with the potential for the greatest impact from this project. Hypertensive patients can incorporate self-care measures into their lifestyles and live healthier. The advanced practice nurse will be taught updated clinical guidelines regarding hypertension as well as hypertension self-care measures; they can share with their patients during primary care encounters.

### **Reduction of Gaps**

The practice gap of managing hypertensive patients is an interesting one. Most health care professionals have about 15 to 20 minutes to spend with patients during an average encounter. During that time the provider is expected to diagnose, treat, and educate the patient regarding the disease process. Quite often in the rural setting patients have multiple problems that need to be addressed and a non-urgent elevated blood pressure reading is often delayed until another visit. By not addressing the abnormal

finding, patients are often unaware that they have high blood pressure or are not alarmed if the provider does not discuss the reading during that visit. Ideally, any abnormal findings such as an elevated blood pressure reading should be addressed at the point of care. The patient may not necessarily need a prescription, but rather a simple and well thought out discussion regarding the findings at the visit along with education about self-care measures that could be used at home to improve blood pressure readings.

### **H-Scale**

Hypertension Self-Care Activity Level Effects (H-SCALE) was developed by Dr. Jan Warren-Findlow and her colleagues in 2011 in an effort to improve hypertensive disease management in inner-city African American patients of Charlotte, North Carolina. During that time, the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) recommended self-care behaviors that were associated with improved blood pressure outcomes (Warren-Findlow et al., 2013). The H-SCALE is a written, 7-point Likert survey that consists of “31 items that assess the 6 self-care behaviors related to controlling blood pressure” (Warren-Findlow, Reeve, & Racine, 2017, p. 93). The self-care characteristics measured by the H-SCALE are medication adherence, weight management, engaging in physical activity, reducing alcohol intake, avoiding or ceasing tobacco consumption, and eating a healthy diet such as the DASH diet (Warren-Findlow et al., 2013). Warren-Findlow and colleagues (2013) reported “Higher H-SCALE scores reflect better self-care practices and should be associated with lower blood pressure readings (p. 638). I obtained written

permission from Dr. Warren-Findlow to use the H-SCALE for this project (see Appendix A).

### **Implications for Social Change**

Primary care providers are the change agent for this project. According to Whittle et al. (2014) primary providers are vital leaders in the healthcare community that is struggling to meet patient care needs. Patient care needs may be individual, group, or community based. The use of Dorethea Orem's Self-Theory of Nursing may serve as a framework to meet various patient-based needs (Prickett, Peters, & Jarosz, 2014).

Advanced practice nurses have the ability to incorporate patient education or care in various settings. Kear (2015) described the treatment of hypertension as daunting due to patient lack of compliance with taking medications and lack of knowledge regarding the disease process, eating a balanced diet, and exercising. The approach of this project is to educate primary care providers how to incorporate education about self-care measures regarding hypertension into their patient encounters.

The premise of this project is based on the concept of primary care professionals providing health-related information and medical or nursing care to help meet the self-care deficits of rural patients with hypertension. I am hopeful that the self-care measures presented to the patients by the providers can be incorporated into their patients' environments and everyday lives, ultimately affecting social change. Finally, I believe that providers have the ability to change patient behaviors to improve their health through patient self-care education and healthy lifestyle changes.



## Definitions and Terms

The following terms and definitions are used as a guide for this project.

*(H-SCALE)*: or Hypertension Self-Care Activity Level Effects Scale is a self-reported assessment designed to measure blood pressure control in relationship to recommended self-care activities and behaviors.

*Hypertension*: Is defined as a systolic blood pressure is greater than or equal to 140 mmHg or their diastolic blood pressure is greater than or equal to 90 mmHg both together or separately on repeated exams (Weber et al., 2014). “Hypertension has also been described as persons who take antihypertensive medications or have a systolic blood pressure of at least 140 mmHg or a measured diastolic blood pressure of at 90mmHg”: (CDC, 2015, p. 27). Clinical hypertension is defined as a systolic blood pressure reading of 130 mmHg or greater and/or a diastolic blood pressure reading of 90 mmHg (CDC, 2013).

*Self-Care*: Self-care is defined as “actions directed towards one-self and/or environment to regulate one’s functioning in the interest of one’s life, integrating, functioning, and well-being” (Han et al., 2014, p. E11). Orem (2001) described self-care as a continuous provision of care that is essential to the health of individuals.

*Self-Care Deficit*: is described as inadequate self-care for meeting the existing projected therapeutic self-care demands because of health or health related factors (Pickett, Peters, & Jarosz, 2014).

*Self-Care Measures*: Warren-Findlow et al. (2013) defined self-care measures as six core self-care activities described in the Seventh Report of the Joint National

Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7). Self-care activities are regarded as very important measures as they are designed to promote adherence behaviors for better blood pressure control (Han et al., 2014).

According to Warren-Findlow et al. (2013) “The H-SCALE also validated respondents’ self-reports of the following: (1) adhering to prescribed medications, (2) engaging in physical activity, (3) following healthy low fat and low salt diet similar to the Dietary Approaches to Stop Hypertension (DASH diet), (4) maintaining a healthy weight, (5) reducing alcohol intake, and (6) avoiding the use of tobacco products” (p. 638).

*Rural environment:* is described as an open area of land that has few people, buildings, and business’ (National Geographic Society, 2017). The Census Bureau of the US defined rural areas as a town where less than 1000 people live per square mile with less than 500 persons living in its surrounding areas (National Geographic Society, 2017). For the DNP project, The DNP project site is an area with approximately 153 persons per square mile and a landmass of almost 800 square miles of land in region (U.S. Census, 2017).

### **Assumptions and Limitations**

Assumptions are statements accepted as truth although they may not have been scientifically tested (Grove, Burns, & Gray, 2013). The project is based on the following assumptions:

1. Self-care will reduce blood pressure readings and, therefore, lower incidences of negative cardiovascular events.

2. Healthcare providers will share self-care measures with their hypertensive patients.

Limitations are theoretical limitations or weaknesses that may be present in a study that has the tendency to reduce the likelihood the findings can be generalized (Grove et al., 2013). The project is based on the following limitations:

1. There was limited evidence in the literature regarding the application of the Self-care Nursing Theory to patients with hypertension.
2. There was limited evidence in the literature to regarding the application of the H-SCALE as an educational tool for healthcare providers.
3. This educational project is limited to a certain population, which limits generalizability of the findings.

### **Summary**

Hypertension is often treated in primary care and is the leading cause of morbidity and mortality (Krader, 2014). Chronic illnesses such as hypertension have poorer outcomes among rural health populations (Chow et al., 2013). Perez-Escamilla, Franco-Trigo, Moullin, Martinez-Martinez, and Garcia-Copas (2015) stated there is a widely accepted relationship between blood pressure control and adherence to antihypertensive treatments. The main approach to this project is self-care teaching measures that are aimed at improving the knowledge base of primary care providers in the rural southeastern US. The providers will be expected to include the information regarding the H-SCALE into their practice with hypertensive patients.

## Section 2: Background and Context

### **Introduction**

More than 40% of adults under the age of 64 and approximately 70% of adults over the age of 65 have hypertension (Mwanza & Mazimba, 2018.) “Yet less than thirty-nine percent of patients with hypertension have readings that are controlled” (Dennison-Himmelfarb & Commadore-Mensah, 2016, p 243). Persons living in suburban and rural areas have higher a prevalence of hypertension when compared to urban populations (Li et al., 2015). Little is known in the literature about the benefits of sharing self-care behaviors with advanced practice nurses or primary care providers. APN’s can share self-care behaviors with their patients during primary care visits. For that reason, “it is crucial to implement well designed educational programs to improve hypertension self-care behaviors” in our patients (Motlagh et al., 2016, p. 2). I am optimistic that teaching self-care behaviors to hypertensive patients will improve their blood pressure readings as well as lower their long-term risk for negative cardiovascular related outcomes.

Chronic illnesses such as hypertension require an individual to perform a variety of self-care behaviors (Motlagh et al., 2016). Self-care is defined as “actions directed toward one-self and, or the environment to regulate one’s functioning in the interest of one’s life, integrating functioning, and wellbeing” (Han et al., 2014, p. E11). “According to the World Health Organization (WHO), one way to better control hypertension is to involve patients in their own care (Motlagh et al., 2016, p. 1). Kear (2015) adds that incorporating patients in self-management strategies are proven effective in patients with chronic disease states such as hypertension.

### **Sources of Evidence**

The sources of evidence for this project were obtained from various evidenced-based electronic resources in the literature. The articles were selected from the following databases: CINAHL, ProQuest, Johanna Briggs Institute, Cochrane, Medline, Ovid, the Center for Disease Control, and the Walden University Library during a 2-year period of time. The terms used for the literature searches include the following: rural environment, hypertension, self-care, self-care behaviors, self-care deficits, H-scale, and self-care measures. Literature older than 5 years was excluded from this project with the exception of a couple original works by the theorist Doroetha Orem and other pertinent information regarding her Self-Care theories. The primary sources of evidence encompass the concepts of self-care and the H-scale tool for measuring self-care behaviors. This literature review was inclusive as well as exhaustive as it considered relevant literature related to hypertension and self-care from various angles. The details of this search will be further discussed in the literature review.

Being that hypertension affects four out of ten adults over the age of 25 and is the leading cause of death and disability, it is important to use the most current evidenced based data (Khalsa et al., 2014). For the purposes of this project, the primary sources of evidence will be obtained from published reports, journals, national guidelines, and expert commentaries. The information obtained from the literature review will be used as the basis for developing an education project to help providers teach and treat patients living in rural settings in order to manage hypertension more appropriately. I am hopeful

that the data collected will support that teaching self-care measures to patients improve healthcare related outcomes.

### **Theoretical Framework**

Nursing Theorist, Dr. Doroetha Orem suggested that people have the natural ability to care for themselves (O'Shaughnessy, 2014). Dr. Orem's self-care deficit nursing theory (SCDNT) provides a holistic perspective to address the concerns of self-care in patient outcomes (Folse, 2013). Kuo's (2014) systematic review supported the idea of "self-care improving the physiologic and psychological outcomes of persons with chronic diseases" (p.174). SCDNT can be easily adapted to any patient situation or practice problem in which the patient has a deficit in caring for his or her needs (Green, 2012). There are several citations in this portion of the project that were published more than 5 years ago. There is limited literature regarding Dr. Orem and the SCDNT past the year 2011.

Orem began to develop and refine her ideas regarding the human needs for nursing care in the 1950's (Banfield, 2011). "The concept of self-care was later developed and published in 1959" (Akyol, Cetinkaya, Bakan, & Akkus, 2007, p.680). Orem's self-care deficit nursing theory is considered to be a general nursing theory (Banfield, 2011, McEwen & Wills, 2011). Throughout it four metaparadigm concepts or recurrent themes are identified. They are nursing, humans, environment, and health. Each of the metaparadigm concepts has significance in creating the theoretical structure of viewing self-care in a holistic perspective (Folse, 2013). The metaparadigm concepts of nursing, humans, environment, and health revolve around an individual's ability to care

for him-self or maintain self without deficits. Dr. Orem (1991) described self-care agency as the ability to perform activities in order to preserve life, health, and well-being. While a self-care deficit would be described as any lack or a deficit in the patient's ability to preserve his or her own life, health, or well-being.

Other authors such as McEwen and Wills (2011) view the metaparadigm concepts as modern realism, which is the major philosophical assumption of the theory. For the purposes of the project, I will focus on modern realism as an aspect of this theory to describe the relationship between human beings with nursing, their environments, and health. Banfield describes modern realism as real world that exists but the knower's thoughts are independent of that world...or "reality exists but it not related to the thoughts of the individual" (2011, p.97). Orem further explained "human beings exist in their environments" but the condition of the environment can motivate persons to change their behaviors to achieved specific results (Orem, 2001, p.79). An underlying premise for Orem's theory is the belief that humans are in continuous communication with themselves and their environments to function (McEwen & Wills, 2011). A mutual relationship of influence also exists between humans, nursing, health, and the environment (Manzini & Simonetti, 2009). There is no current or relevant updated literature regarding this citation. The balance of these coexisting relationships can be altered or changed through deliberate actions (Banfield, 2011). Deliberate actions can be further described in the capacity of nursing agency toward a specific patient population that alters health, or the self-care demands of environmental conditions (Banfield, 2011). For example, an advanced practice nurse could represent nursing agency. The patient

population is considered the human or humans the nursing agency is directed towards.

Patient teaching provided through nursing agency is directed towards humans regarding lifestyle changes that may alter their health; thereby helping to meet the self-care demands of environmental conditions.

Human beings are defined as “men, women, and children cared for either singly or as social units; and are the material object of nurses and others to provide direct care” for (Orem, 2001, p.8). Orem further identified the profession of nursing within the context of a social contract between the nurse and the patient that needs services (Green, 2012). Nursing agency or the nursing care rendered to individuals, families, or communities are another premise of this theory (Banfield, 2011). It is the nurse’s responsibility to help individuals care for them-selves or “conceptualize self-care as a human regulatory function that involves deliberate actions to promote life, health, and well-being” (Banfield, 2011, p.96). The overall “purpose of nursing is to use its unique powers, capabilities, and deliberate actions to attend to persons with self-care deficits and to respond to the person’s inability to provide the required amount of self-care for them-selves continually” (Green, 2012, p. 36). The nurse may provide self-care activities to an individual by “giving guidance, direction, or teaching” (Orem, 2001, p.7). These activities may be provided once, over prolonged periods of time or sporadically. In considering the concepts nursing care, self-care and self-care deficit, Doroetha Orem later developed the framework of the SCDNT (O’Shaughnessy, 2014). The theory seeks to explain the relationships between the action potential of the individual, the environment,



and their health (Green, 2012). Although the environment is not specifically defined in the SCDNT, it has implied meaning as being part of the four-metaparadigm concepts.

Banfield (2011) stated “an explicit definition of the environment would give nurses a clearer understanding to of the theory” (p.99). Orem (2001) has described the environment as having physical, chemical, biological, and social features, as a way of helping, and place of existence for humans. Some authors have implied the meaning as well as the importance of the environment as a part of this theory. For instance, the Institute of Medicine (IOM) (2001) indicated the country’s health care system is the environment and it is where nursing care takes place. The focus of health care needs to shift from acute care to chronic disease management with the following aims: (a) safe, (b) effective, (c) patient-centered, (d) efficient, (e) timely, and (f) equitable care (Banfield, 2012, p. 99). Banfield (2011) adds that leaving the concept undefined can further the conceptualization of ideas and nursing research regarding the environment. For the purposes of this project, a healthcare provider can represent nursing agency (patient teaching) that is directed toward humans (the patient population) regarding lifestyle changes (altering health) that can be used to meet self-care demands or environmental conditions of improving blood pressure (Banfield, 2011).

### **Role of the DNP Student**

Advanced practice nurses have multiple roles and expectations. In considering the objectives of this project, I apply Doroetha Orem’s self-care theory as a guide for this educational based project. “Orem’s SCDNT proves a valuable approach to disease prevention and health promotion by helping the individual to maintain his or her own

care without depending on others to undertake his or her responsibilities” (Akyol et al., 2007, p. 680). I will develop, administer, and collect data for this self-care educational intervention using a holistic and practical approach. I will also be responsible for teaching and evaluating LANP members regarding hypertensive self-care measures. After the intervention, I will analyze and record the data from the intervention and present the findings to the stakeholders of the LANP and consider the possibility of presenting or publishing the findings.

### **Role of the Project Team**

The proposed project will be small, low budget, and effective while meeting the desired objectives of teaching primary care providers the H-SCALE self-care methods. The project team will primarily consist of board-certified Family Nurse Practitioners and physicians. The role of the NP for this project will be consistent with the American Associations of Colleges of Nursing (ANCC) essentials for Doctoral Nursing Education. Those roles are as follows (Terry, 2015):

- Team lead and project coordinator
- Nurse educator and project moderator for teaching self-care strategies
- Collects and analyze pre and post test data for synthesis and dissemination

### **General Literature**

Hypertension continues to be a worldwide public health problem (Shirvastava, Shirvastava, & Ramasamy, 2014). Despite it being the most common risk factor for cardiovascular disease, “more than one third of adults in developed countries have hypertension” (Weber et al., 2014, p. 15). High blood pressure “is the leading global risk

factor for death and disability” (Dasgupta et al., 2014, p.487). Hypertension also affects one third of the adult population in the US (Warren-Findlow et al., 2013). There are multiple complications associated with hypertension such as myocardial infarction, stroke, and renal failure (Armstrong, 2014). Premature mortality caused by poorly controlled blood pressure creates burdens for individuals, their families, and society (Han, et al., 2014). Kear (2015) described hypertensive treatment as daunting due to the lifelong nature of the disease and complex treatment regimens. Persons with hypertension, their families, and healthcare providers could truly benefit from lower blood pressure readings and improved blood pressure related outcomes.

There are several clinical practice guidelines to consider when treating patients with hypertension. Most guidelines define hypertension as a systolic blood pressure reading greater than 140mmHg or a diastolic reading greater than 90mmHg on more than one occasion (Weber et al., 2014). These findings usually apply to adults between the age of 18 through 65, but some guidelines allow for higher systolic readings of 150mmHg or greater in persons older than the age of 60 (Dasgupta et al., 2014). Others recommend diagnosing persons with hypertension with systolic readings as low as 130 mmHg if the patient has chronic medical conditions such as chronic kidney disease (CKD) or diabetes mellitus (DM) (Hernandez-Villa, 2015). Lastly, the JNC 8 guidelines suggest treating hypertension with certain classes of medications based on the patient’s ethnic background (Abel et al., 2015). These recommendations are intended to be a guide for healthcare providers and should never replace professional or clinical judgement (Dasputa, et al., 2014).

Evidenced-based clinical guidelines are essential in assisting clinicians with providing the best care for their patients (Gauer & Larocque, 2014). In review of the most current recommendations for hypertension management, the Eighth Joint National Committee (JNC 8), The American Society of Hypertension, and the European Society of Hypertension have similar suggestions for the treatment thresholds for hypertension. They recommend starting hypertensive medications in the general population for persons less than 60 years of age at 140/90 mmHg, but the blood pressure threshold is increased to persons between 60 and 80 years of age to 150/90 mmHg (Armstrong, 2014). The American Diabetes Association and Kidney Disease: Improving Global Outcomes initiatives both have chronic disease approaches with treatment guidelines. Persons with CKD and DM begin treatment at blood pressure readings of 140/90 mmHg (Hernandez-Villa, 2015). While persons with CKD and DM with proteinuria the guidelines are stricter and aim for lower blood pressure readings equal of or below 130/80 mmHg (Armstrong, 2014). Because there are multiple evidenced-based clinical guidelines to consider for hypertensive management, I will follow the JNC 8 guidelines for the purposes of this project for hypertension diagnosis and treatment goals which will be discussed in detail in the specific literature portion of this paper (Reboussin et al., 2018).

Hypertension is classified in the literature in various ways. It has been described as normal, stage one, stage two, primary, secondary, essential, resistant, or crisis (Weber et al., 2014). Although each term has a specific meaning, they are all considered categories of hypertension and can be defined according to the agency presenting the information. Understanding and recognizing each category of hypertension will be

beneficial to healthcare providers as they incorporate self-care measures with disease management strategies. The American Heart Association (2018) and the Mayo Clinic (2018) describe the stages of hypertension in similar ways.

- Normal 120/80 mmHg or below
- Elevated 120-129 over 80 mmHg
- Stage 1 130-139 over 80-89 mmHg
- Stage 2 140 or higher over 90 mmHg or higher
- Hypertensive crisis 180/120 mmHg or higher

Resistant hypertension is described as blood pressure readings that are difficult to control despite the patient being on three medications at maximum doses (Charles, Triscot, & Dobbs, 2017). Lastly, hypertensive crisis is considered as a medical emergency. When blood pressure readings are at or above 180/120 mmHg there are increased risks of stroke and the patient should be evaluated right away (Dasputa et al., 2014). Mahvan and Mlodinow (2014) suggested that healthcare clinicians investigate potential causes for resistant or crisis level blood pressure readings when their patient's area taking multiple medications without improvement.

Hypertension can also be classified as primary or secondary in nature. Primary or essential hypertension affects about 90% of persons with the disease, but it has no identifiable cause (Charles et al., 2017). There is, however, some evidence in the literature that links primary hypertension to genetics, excessive sodium consumption, obesity, a sedentary lifestyle, or imbalances in the renin-angiotensin aldosterone system (Weber, et al., 2014). "Secondary hypertension on the other hand is caused by an

underlying or correctable cause” (Charles et al., 2017, p.453). It affects about 5% of persons with hypertension and is often detected during a history and physical exam, routine laboratory tests, or imaging studies (Charles et al., 2017). Some common causes of secondary hypertension are “chronic kidney disease, renal artery stenosis, excessive aldosterone secretion, pheochromocytoma, and obstructive sleep apnea” (Weber et al., 2014, p. 16). Lastly, secondary hypertension should be considered when someone is newly diagnosed with high blood pressure, young adults, and children as the effects are reversible when compared to primary hypertension.

### **Specific Literature**

“Hypertension is a major risk factor for coronary artery disease, stroke, heart failure, and renal failure” (Hernandez-Villa, 2015, p. 226). It is responsible for approximately 40% of all the cardiovascular related deaths in this country (Kovell et al., 2017). The annual costs associated with hypertension management are over \$47 billion in the US (Hernandez-Villa, 2015). In considering the cost of lives and resources the Eighth Joint National Committee released new hypertension treatment guidelines in December 2014 (Mahvan & Mlodinow, 2014). Armstrong (2014) described these guidelines as “evidence-based recommendations on treatment thresholds, goals, and medication management of hypertension in adults” (p.503). It had been 10 years since the last guidelines were published and many consider JNC 8 as a revision or update of its predecessor JNC 7.

There have been comparisons in the literature between JNC 7 and JNC 8. Mahvan and Mlodinow (2014) reported that JNC 7 had more stringent recommendations in

treating persons with blood pressure readings as low as 130/80 mmHg and did not use age as a determining factor in treatment initiation. JNC 7 did not have specific treatment guidelines for persons based on race or a history of comorbid conditions such as kidney disease or diabetes. The drug recommendations were complex and gave very little direction regarding monitoring and medication adjustments (Mahvan & Mlodinow, 2014). JNC 7, however, had a focus on lifestyle modifications and patient involvement in their care (Hernandez-Villa, 2015). While JNC 8 did “call for lifestyle management” specific recommendations were not included in the guidelines (Mahvan & Mlodinow, 2014, p. 582). Gauer and Larocque (2014) reported that “new guidelines may frustrate some clinicians who want more detailed guidance” with hypertension management ( p.503).

“In many ways JNC 8 guidelines are simpler than those of JNC 7, with more evidenced-based recommendations and less reliance on expert opinion” (Mahvan & Mlodinow, 2014, p.574). The primary focus on the JNC 8 panel was aimed at answering the following three questions.

1. Does initiating antihypertensive treatment at specific blood pressure thresholds improve health outcomes?
2. Does treatment with antihypertensive therapy to a specific blood pressure goal improve health outcomes?
3. Are there differences in benefit versus harm between antihypertensive drugs or drug classes on specific health outcomes? (Hernandez-Villa, 2015, p.226).

“The committee’s focused was exclusively on large, randomized, controlled trials as supporting evidence” for the basis of the 9 recommendations (Kovell et al., 2017, p.1; Hernandez-Villa, 2015, p.226). Krader (2014) on the other hand, summarized the recommendations into 8 key points that were based on “rigorous, systematic review of randomized controlled trials” (p.20). Although there is a discrepancy over whether there were 8 or 9 recommendations, the summarizations are categorized according to when to start antihypertensive medications and what antihypertensive medications to start. Krader (2014) summarized the JNC 8 recommendations for blood pressure thresholds for starting blood pressure medications as followed:

- In the general population, persons greater than the age of 60 with systolic blood pressure readings greater than or equal to 150 mmHg or a systolic blood pressure greater than or equal to 90 mmHg.
- In persons younger than the age of 60 or any adult with diabetes or chronic kidney disease with systolic blood pressure readings greater than or equal to 140 mmHg or diastolic blood pressure above or equal to 90mmHg.

The following are recommendations for what specific antihypertensive medications should be initiated for persons with hypertension according to Mahvan and Mlodinow (2014):

- The use of a thiazide-type diuretic (TD) or a calcium channel blocker is first-line therapy for African American or black persons whether or not they have diabetes or chronic kidney disease.



- In the non-black general population, a thiazide-type diuretic, calcium channel blocker (CCB), angiotensin converting enzyme (ACE), or angiotensin receptor blocker (ARB) is strongly recommended as first-line therapy.

“As a result of this new guideline, fewer older adults will meet the diagnostic criteria for hypertension” (Gauer & Larocque, 2014, p.450). Kovell et al. (2017) added that over 6 million elderly persons with hypertension could have detrimental consequences of not having their blood pressure treated. Opponents of JNC 8 are concerned that the raised blood pressure treatment threshold for adults over the age of 60 to greater than 150/90 mmHg will increase the risk of cardiovascular related events in this particular age population. Hernandez-Villa, (2015) argued that the change in age recommendation is evidence-based. “Moderate to high quality randomized controlled trials have found a reduced incidence of stroke, heart failure, and coronary disease when blood pressure was treated to below 150/90 mmHg” and there was no benefit of treating blood pressures below the recommended target (Mahvan & Mlodinow, 2014, p. 575). Forty percent of middle-aged adults and 70% of elderly adults have high blood pressure readings greater than 140/90 mmHg (Mwanza & Mazimba, 2018).

“JNC 8 made a paradigm shift in the pharmacologic management of hypertension” (Gauer & Larocque, 2014, p. 449). Previously, beta-blocker medications were recommended as first-line therapy for persons with hypertension, but JNC 8 no longer suggests this class of medication for group of patients (Krader, 2014). It now suggests a broader use of medications that favor the use of thiazide-diuretics, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, and calcium

channel blockers as first-line therapy (Gauer & Larocque, 2014). Hernandez-Villa (2015) suggested the wider range of first-line medications will allow clinicians the ability make the best decision for their patient supported by evidence. If the target blood pressure is not reached within 1 month of initiating hypertensive medications, JNC 8 suggested increasing the medication dosage (Krader, 2014). Finally, Armstrong (2014) suggested adding a second or third medication from a different class until the BP goal is reached and “referral to a physician with expertise in treating hypertension for patients that do not reach target readings” (p. 504). This guideline will give health-care providers more direction and guidance in treating their patients with hypertension.

Lastly, critics of JNC 8 have concerns regarding the treatment of patients with chronic conditions such as chronic kidney disease and diabetes. JNC 7 had blood pressure treatment thresholds at or below 130/80 mmHg for persons with CKD and DM (Mahvan & Mlodinow, 2014). JNC 8, on the other hand has raised its thresholds to 140/90 mmHg and offered a wider range of medication options. Historically, societies such as the American Diabetes Association, the American Society of Hypertension, and Kidney Disease: Improving Global Outcomes suggested treating persons with diabetes and chronic kidney disease with angiotensin-converting enzyme inhibitors and angiotensin receptor blockers as first-line therapy (Kovell et al., 2015). “Improved renal outcomes make ACE and ARB’s compelling choices for patients with DM and CKD” (Gauer & Larocque, 2014, p. 450).

“In the black population with hypertension, calcium channel blockers and thiazide diuretics generally tend to be favored as initial therapy over angiotensin-converting

enzyme inhibitors and angiotensin receptor blockers” (Kovell et al., 2015, p. 8). “TD and CCB’s are preferred in black patients because of the following: (a) improved cardiovascular outcomes; (b) improved cerebrovascular outcomes; and (c) more effective blood pressure reduction” (Gauer & Larocque, 2014, p. 450). Abel et al. (2015) studied the significance of blood pressure related outcomes and end organ damage in African American patients using JNC 8 guidelines. The results were astonishing, as they found no difference between the uses of thiazide diuretics, calcium channel blockers, or any other type of medication (Abel, 2015).

### Section 3: Collection and Analysis of Evidence

#### **Introduction**

Hypertension is a significant public health problem (Lo et al., 2016). It is a “major risk factor for cardiovascular disease, including stroke, heart, and kidney disease” (Fongwa, Nandy, Yang, & Hays, 2015, p. 484). Throughout the literature, there has been an increased focus on “self-care behaviors as one of main factors for controlling high blood pressure” (Motlagh et al., 2016, p. 2). Little research has been identified regarding provider awareness and evidence-based treatment options for healthcare providers. Zhu, Wong, and Wu (2017) added “nurse-led healthcare may be an effective way to improve outcomes for hypertensive patients, but more evidence is needed at the community level” (p. 171). For this reason, I would like to propose a self-care hypertensive educational program for advanced practice nurses in my region.

To address the APRN’s awareness of self-care behaviors, a PICO was developed. The patient population will consist of about 20 advanced practice nurses in the county surrounding the clinic site. The intervention will be a teaching module regarding hypertension and self-care measures. The comparison will consist of analysis of data from a pretest and a posttest questionnaire regarding the self-care hypertensive module. The outcome of this project is to identify the added benefits of improving the knowledge base of APRN’s regarding hypertension and self-care behaviors. The study design will consist of a quantitative analysis of the data collected in the pretest and posttest periods.

## **Approach**

Hypertension related care of chronic disease management requires individuals to care for themselves (Han et al., 2014). For this reason, I would like to develop a self-care teaching project to assist patients with improving their self-care knowledge regarding the diagnosis, treatment, and management of hypertension through education of their primary care practitioners. It is easy for providers to identify patients with hypertension, because it is the most common chronic condition dealt with by primary care providers (Weber et al., 2014). However, managing these patients is very challenging for even the most experienced provider (Kear, 2015). Primary care providers in rural settings are faced with different circumstances when compared to urban and suburban areas. The providers in underserved rural populations have to consider the patient's limited access to care, rural geography, low socioeconomic status, as well as the culture of the people they provide care for (Chow et al., 2013). "Blood pressure readings are less controlled in rural areas" (Chow et al., 2013, p. 963). In considering the complexities of hypertension management, there is a great need for providers to be aware of the current treatment guidelines associated with hypertension as well as essential self-care management tools to improve blood pressure readings and outcomes of patients in rural communities.

## **Methodology and Design**

The DNP project is a staff education module on hypertensive self-care that will take place at a regional nurse practitioner's meeting in the southern region of the US. The organization has an annual conference as well as monthly meeting where nurse practitioners are presented with evidenced-based information regarding various patient

care topics. Prior to starting the project, institutional review board (IRB) approval will be obtained from Walden University. IRB approval will help to ensure the safety of the participants. Verbal consent will be implied from the participants when they submit the pretest and posttest questionnaire for data analysis. The pretest will be administered prior to the teaching module on hypertensive self-care and the participants will not be asked to put their name or divulge any identifiable information. The same procedure will be done for the posttest.

The module will be scheduled for the APN's next monthly meeting. The inclusion criteria for this project will be for any registered nurse practitioner working in primary care who is in attendance of the meeting. Nurse practitioners, student nurse practitioners, physician assistants, and medical doctors, will not be excluded from the meeting. The sample size will be about 10 to 30 primary care providers. Participants will be recruited via email. Each month member of the nurses association receives an email regarding the date, time, location, and topics discussed for the next month's meeting. As previously mentioned, the approach is educational, and the Walden University DNP staff education manual will be used as a guide for this project.

The data collection method for this project will be researched based. A comparative analysis of the pretest and posttest data regarding the self-care hypertension module will be the basis of the findings. Basic descriptive statistics (counts and percentages) will be used to evaluate the participant's knowledge base. IBM SPSS version 25 will be used to calculate the data. The outcome of this project is to identify whether the education module improves the knowledge base of APN's regarding

hypertension and self-care behaviors for their patients. The data will be collected, analyzed, and hopefully publicized regarding the benefits of peer-lead self-care interventions in chronic disease management. I am hopeful the intervention will again (1) create provider-based awareness of the complexities of caring for rural health patients with hypertension; (2) educate primary care providers on the current treatment guidelines associated with hypertension; and (3) improve the self-care knowledge base of APN's through the use of the H-SCALE while decreasing the negative hypertensive-related outcomes in rural regions of the southern United States.

The pretest (see Appendix B) will include a total of 10 questions. The first 2 questions are specifically for collecting data regarding the APN's years of practice and approximate number of hypertensive patients seen per week. The next 8 questions are designed to collect data regarding the APN's knowledge base regarding hypertension, self-care, self-care behaviors, and current hypertension-related guidelines.

The PowerPoint presentation (see Appendix C) is the educational module that will be used for the APN's' education. The topics to be covered in the education module include:

- Morbidity and mortality associated with hypertension
- Major risk factors for coronary artery disease, stroke, heart failure, and renal failure
- Role of APN's in diagnosis, management, and treatment of hypertensive patients

- Importance of APN's including self-care measures with hypertensive patients
- Nursing theory (Dr. Orem's self-care deficit nursing theory)
- Four metaparadigm concepts of SCDNT
- Self-care
- H-SCALE
- Self-Care Behaviors (H-SCALE characteristics)
- JNC 8 guidelines
- First-line drug therapies
- Recommendations for diabetes, among African Americans, elderly, and patients with chronic kidney disease
- Case Study- Susan Brown
- Review
- Questions and Answers

The posttest (see Appendix D) will include a total of 12 questions. Each question is used as a comparison to the pretest and is designed to collect data regarding the APN's knowledge base regarding hypertension, self-care, self-care behaviors, and current hypertension-related guidelines.

### **Reliability and Validity**

It is important for health-care providers working with hypertensive patients to have additional insight into patient's self-care behaviors (Warren-Findlow et al., 2013). Han et al. (2014) added "adequate self-care is crucial for blood pressure control" (p.



E11). Medication adherence and life-style modifications are the two main areas of self-care identified in the literature for hypertensive patients (Han et al., 2014). According to Warren-Findlow, et al.(2016), there have been two studies conducted and published examining the validity and reliability of the 6 subscales of the H-SCALE. Each subset had adequate internal consistencies above .67 based on the Cronbach's alpha (Hutchinson, Warren-Findlow, Dulin, Tapp, & Kuhn, 2014). The diet portion of the subscale had poor internal consistency with findings opposite of what the developer expected (Warren-Findlow et al., 2017). Further studied and psychometric testing were done which resulted in an updated diet subset of the H-SCALE called the DASH-Q. "The DASH-Q is a more robust self-report measure of the diet quality than the previous diet imbedded in the H-SCALE because it focuses on specific food and is easier to translate" (Warren-Findlow et al., 2016, p. 2). Overall, the H-SCALE was "reported valid and reliable for self-care measurements and being associated with lower systolic and diastolic blood pressure readings for five of the six self-care behaviors" (Warren-Findlow et al., 2013, p. 637). The H-SCALE was accepted for use in clinical settings, and adherence to self-care was generally aligned with lower blood pressures (Warren-Findlow et al., 2013). Warren-Findlow and colleagues (2017) encouraged uses of the H-SCALE to use the updated diet subset in future research.

### **Summary**

"Hypertension is a major public health challenge" (Motlagh et al., 2016, p. 2). One-in-three adults have elevated blood pressure readings in the US (Lo et al., 2016). Hypertension is responsible for more cardiovascular related deaths than any other

modifiable disease (Mwanza & Mazimba, 2018). The JNC 7 also recommends six self-care practices to control blood pressure (Hutchinson et al., 2014). Those six self-care behaviors are the key components of the H-SCALE used as the basis for this project. Various studies reported “getting patients involved in self-care behaviors is one of the main factors for controlling blood pressure readings” (Motlagh et al., 2016, p. 2). Hypertensive self-care behaviors have also been directly associated with preventing high blood pressure related complications such as stroke and early death (Han et al., 2014). The role of the APN in primary care settings may be the change agent to get patients involved in their own care. Zhu et al. (2018) added patients involved in nurse-led hypertension management had enhanced self-care behaviors and lower blood pressure readings when compared to traditional hypertension management. Motlagh et al. (2016) reiterate, “it is crucial to implement well-designed educational programs to improve hypertension self-care behaviors” for patients and their healthcare providers (Motlagh et al., 2016, p. 2).

## Section 4: Findings and Recommendations

### **Introduction**

According to Wright, Still, Jones, and Moss (2019), hypertensive self-care management is complex (p. 1). "Self-care for hypertensive persons includes a diet rich in fruits and vegetables, cessation of smoking, sufficient physical activity, antihypertensive medications, reduction of weight, sodium and alcohol intake" (Javadzade, Larki, Tahmasebi, & Reisi, 2018, para 2). Despite the benefits of evidence-based self-care behaviors, many hypertensive patients are still noncompliant with these behaviors (Javadzade, Larki, Tahmasebi, & Reisi, 2018). A quarter of hypertensive patients' report being unaware of any measures they can take to improve their blood pressure readings (Himmelfarb & Commodore-Mensah, 2016). There have been advances in the perception, diagnosis, and treatment of hypertension but less than half of hypertensive patients have blood pressure readings below 140/90 mmHg (Schunkert, 2017). One approach is to educate primary care providers about hypertensive self-care so they can then share the information with hypertensive patients. Advanced practice nurses can provide education and counseling to help hypertensive patients with healthy lifestyle changes during their visits (Himmelfarb & Commodore-Mensah, 2016).

The participants were members of regional nurse practitioner association. Active members received an email inviting them to participate in a hypertensive self-care study in their area. The study was held in a meeting room of a local library. Although the study was done in person, the participants consented anonymously. A pretest was administered to collect information regarding their knowledge base of hypertensive self-care along

with demographics about the providers. The APN's then listened to the Hypertensive Self-care teaching module. The presentation was followed by an in-person posttest. The questionnaires were collected, and the findings were synthesized using simple percentages.

### **Findings and Implications**

There are 1300 members of the APN association divided into nine regions throughout the state. In my region, 232 nurse practitioners received an email invitation to participate in the study. On average there are about twenty nurses that attend the regional monthly meetings. The response rate was 60%. This rate was consistent with the monthly meeting attendance. One nurse was excluded from the analysis because she was a licensed practical nurse and did not meet the inclusion criteria of being a primary care provider or APN. There were no physician assistants or medical doctors in the sample.

The providers had an average of 7 years of experience as advanced practice nurses. Approximately ninety percent of the participants felt confident in treating patients with hypertension, but only 10% felt their patient's blood pressure readings were adequately controlled. Most providers were aware that the H-Scale was a tool to help patients and providers improve blood pressure outcomes, but they were unaware of all the self-care behaviors. A low sodium diet was the most readily identified self-care behavior by providers. Taking blood pressure meds at consistent times was the least identified self-care behavior out of the polled APN's. Almost eighty percent of providers were aware of the JNC 8 treatment guidelines for the general population. Lastly, only 20% of providers

were aware of the first-line therapy for treating hypertensive patients with thiazide diuretics and calcium channel blockers.

The posttest results were significant in comparison to the pretest findings. After the staff education project all of the APN's were aware of the JNC 8 treatment goals for hypertensive patients in the general population and for persons over the age of 60. After the teaching module, 70% of APN's were aware of more self-care behaviors other than a low salt diet. There is also a significant improvement in the awareness of the first-line medications used to treat hypertensive patients. All the participants were aware of which medications to use for patients with chronic kidney disease and when to refer patients to the next level of care. Lastly, all of APN's reported that the self-care module would change the way they treated their hypertensive patients.

Table 1

*Posttest Results*

<b>Number of Participants N =12</b>	<b>Incorrect</b>	<b>Correct</b>	<b>%</b>
Awareness of H-Scale	3	9	70
Awareness of Self-Care Behaviors	0	12	100
Awareness of First-Line Therapy	2	10	80
Awareness of JNC Guidelines	0	12	100

### **Recommendations**

Combining the JNC 8 guidelines and hypertensive self-care measures into an educational module for advanced practice nurses was beneficial for the participants. The primary goal of getting advance practice nurses aware of the measures necessary to care

for their hypertensive patients was met. The first recommendation is for the APN's to share hypertensive self-care measures with their patients. I am hopeful that sharing the self-care information with patients can encourage them to incorporate these measures into healthy life-style changes. The second recommendation is for APN's to continue to practice evidenced-based hypertensive care for patients in rural regions using the JNC 8 guidelines.

### **Strength and Limitations of the Project**

The primary strength of this project is that the participants demonstrated an overall improvement in awareness of self-care behaviors after the teaching module. Secondly, the module improved APN knowledge base regarding hypertensive self-care measures by updating them on JNC 8 treatment guidelines. This module can also be used for continuing education (CE) credits for the participating APN's. It may require some modifications to meet the necessary requirements for state board accreditation. Lastly, the hypertensive self-care measures can be shared with patients and APN colleagues.

On the other hand, there are some limitations of this project. To date, there are few provider-based self-care research studies in the literature. While to the contrary, there are multiple self-care studies for patients with chronic diseases. Projects such as this one should be duplicated using larger sample sizes, different chronic illnesses, and with various subjects. Doing so can further validate the generalizability of the benefits of self-care measures in chronic disease management. The last limitation of this project is the findings were collected by multiple choice questionnaires. In some instances, questionnaires may not capture the main idea or specific thoughts of the participants.

Although hypertension has become a public health problem, the primary focus of this project has remained the same. “Hypertension, a lifelong disease, that requires self-care” (Wright, Hill, Jones, & Moss, 2018, p. 1). Self-care behaviors can be beneficial to healthcare providers and patients. According to Bayrak and Nuran (2018), nurses should continue to provide education and counselling to hypertensive patients through lifestyle modification. One way to do this is by providing advanced practice nurses with the self-care management strategies necessary to share with patients.

### **Summary**

Proper treatment of high blood pressure can significantly reduce cardiovascular related morbidity and mortality (Reboussin et al., 2017). Family nurse practitioners are responsible for managing hypertensive patients with medications and lifestyle education. Although there are “well-defined protocols based on national treatment guidelines,” there is a need for staff educational programs specifically designed for advanced practice nurses (Himmelfarb et al. 2016, p. 245). The goal of this project was to educate APN’s regarding the self-care skills necessary to treat hypertensive patients. I absolutely believe that goal was met. The APN’s that participated in the study report an increased awareness of self-care behaviors. They also commented they would likely share self-care behaviors with their patients. If one advanced practice nurse shares a self-care behavior with a patient, then there is one patient given the power to control their health and possibly improve their blood pressure.

### Section 5: Dissemination Plan

The plans to disseminate this work will be carried out in three steps. First, the findings of this work will be shared within the Walden University community by way of ProQuest or the standards set forth by the university. Secondly, this work will be circulated to the nursing organization associated with this project via poster board or oral presentation during the next annual meeting. Lastly, the findings will be forwarded to the rural health clinic administration, my APN peers, and my family members that are healthcare professionals.

#### **Analysis of Self**

My role as a nurse practitioner has come “full circle”. Twenty years ago, I was a nursing student and had worked through various experiences both personally and professionally. Now I am a more scholarly student and have again worked through many obstacles. First a bachelor’s in my early twenties, a master’s in my thirties, and a doctorate in my forties. By far the latter has been the most difficult. It’s been filled with the ups and downs of everyday family life, the frustrations of health issues, the loss of a job, and the deaths of loved ones. But through it all my love for nursing and the advancement of patient care has remained the same. This has been the driving force that keeps me researching, writing, and editing of this project to completion.

The experience of this project has helped me to be a better clinician. By incorporating evidence-based data into my current practice, patients are getting the best care. I am pleased to see blood pressure readings come down to acceptable ranges. It gives me a great sense of pride that I am helping patients to live healthier lives. I am a



more confident provider. I do not have to second guess myself when treating patients with hypertension. This project has given me a great understanding of how to identify, manage, and treat persons with hypertensive. Lastly, my long-term professional goal is to become an educator of primary care providers in an academic and clinical setting. I intend to bring the self-care philosophy into the classroom and clinical sites of my future students.

Daily, I try to engage my patients in their care. I make every effort to give patients the information they need to improve their health and to make informed decisions about their health. I like to show patients what their blood pressure readings are in the office in comparison to what the goal blood pressure should be. This opens a dialog to speak with them about self-care measures, or what they can do to improve their blood readings. Most patients seem very eager to do their part in helping to improve their care by doing the simple measures written about in this paper. It brings joy to my heart to see the smile on a patient's face when they see their blood pressure is at goal because they did self-care measures.

### **Summary**

The outcomes of this project reinforce the importance of APN awareness of hypertensive self-care behaviors. The results confirm the need for further continuing education for advanced practices nurses regarding self-care measures for their patients with chronic hypertension. The treatment of hypertension involves taking medications, following a diet, getting the proper amount of exercise and quitting addictive substances such as smoking and alcohol. Getting patients involved in their care is the primary way of

improving their lives. The first step in starting this process consists of starting with their health care providers.

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## Appendix A: H-SCALE Permission Approval

Warren-Findlow, Jan <jwarren1@uncc.edu>

**Reply all**

Mon 5/23/2016, 9:35 AM

Kelisia McKay <kelisia.mckay@waldenu.edu>

Important; Inbox; Archive

H-SCALE SAQ 1-3-15 with DASH-Q.docH-SCALE scoring instructions 1-3-15.docx  
63 KB 26 KB

Dear Kelisia,

I am excited to hear about your interest in using the H-SCALE. You have my permission to use the scale in your research.

The self-administered form of the H-SCALE is attached as a word document along with the scoring instructions. Please read the attached scoring instructions carefully so that you understand how to score the scales and their limitations.

The JNMA article ([Warren-Findlow & Seymour](#)) really best describes the genesis of the scale. The Journal of Clinical Hypertension article describes the subscales and their correlations with blood pressure. Please [cite the appropriate publication](#) in the Journal of the National Medical Association and/or the article from the Journal of Clinical Hypertension. I understand that in some areas of the world this is not common practice but [this is a condition of your being able to use the H-SCALE](#). Both articles are attached. Please indicate that you have the researcher's permission to use the scale.

The diet subscale has been revised and is now reflected in this new version of the scale and it's scoring instructions.

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. Let me know if you have any questions.

Ciao. [Jan](#)

 Please consider the environment before printing this e-mail.

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## Appendix B: Pre-Educational Questionnaire

1. How long have you been an Advanced Practice Nurse (APN)?  
Years \_\_\_\_
2. Approximately how many patients per week do you see with hypertension? Weekly \_\_\_\_
3. Do you feel confident in treating patients with hypertension?
  - a. Confident
  - b. Somewhat confident
  - c. Not confident
4. Do you feel your patient's hypertension is controlled?
  - a. Controlled
  - b. Somewhat controlled
  - c. Not controlled
5. Are you aware of any self-care measures available to involve your patients in their own healthcare?
  - a. Yes
  - b. No
6. According to JNC 8, what is hypertension?
  - a. BP over 130/80 mmHg
  - b. BP over 140/90 mmHg
  - c. BP over 120/80 mmHg

7. Do you know what the current treatment goals are for hypertensive patients?
  - a. Yes
  - b. No
8. Which of the following self-care behaviors can improve our patient's hypertension?
  - a. Keeping doctor's appointments
  - b. Taking prescribed medications at the same time daily
  - c. Following a low salt diet
  - d.
9. What is the H-SCALE?
  - a. A tool for blood pressure measure technique
  - b. A tool used for patients and providers to help improve blood pressure outcomes
  - c. A low salt and low-fat diet for hypertensive patients
10. Which classes of medications are not first-line recommendations for patients with hypertension?
  - a. Beta blockers (Metoprolol or Coreg)
  - b. ACE or ARB's (Lisinopril or Diovan)
  - c. CCB's (Norvasc or Cardiazem)

## Appendix C: PowerPoint

**Hypertensive Self-Care**

An Educational Tool for Advanced Practice Nurses  
By  
Kelisia McKay

**Hypertension**

- Affects 1 billion people world wide (Javadzade, Larki, Tahmasebi, & Reisi, 2018).
- Leading cause of morbidity and mortality world wide (Mwansa, Mazimba & Solomon, 2018).
- 9.4 million deaths per year are due to uncontrolled hyper tension (Motlagh, Chaman, Sadeghi, & Esami, 2016).

**Hypertension**

- Major risk factor for coronary artery disease, stroke, heart failure, and renal failure (Mwansa, Mazimba & Solomon, 2018).
- 69% first time MI's and 77% CVA's have BP readings above 140/90 (Bayrak & Tosun, 2018).
- More that half of hypertensive patients have uncontrolled readings (Himmelfarb & Commodore-Mensah, 2016).

### Advanced Practice Nurses (APN's)

- The role of APN has expanded in the past 50 years
- APN's can diagnose, treat, and manage hypertensive patients
- APN's can prevent HTN related complications through regular lifestyle patient education (Bayrak & Tosun, 2018).

### Advanced Practice Nurses

- APN's have the ability to incorporate patient education at the point of care
- The premise of this project is that APN's can provide health related information to help meet the self-care deficits of patients with hypertension

### Theory

- Dr. Orem's Self-Care Deficit Nursing Theory (SCDNT) provides a holistic perspective to address the concerns of self-care in patient outcomes (Folse, 2013).
- Self-care agency is the ability to perform activities in order to preserve life, health, and well being (Orem 1991).
- Self-Care Deficit-any lack or deficit in the patient's ability to preserve his or her own life, health, or well-being (Orem 2001).

### Four Metaparadigm Concepts

- Revolve around an individual's ability to care for himself or maintain self-care without any deficits.
- Nursing
- Humans
- Health
- Environment

### Nursing

#### Advanced Practice Nurse Practitioner

- Diagnose and treat hypertension
- Patient education and teaching
- Involves the promotion and maintenance of health and protection against disease and injury (Orem, 1985).

### Humans

#### Hypertensive Patients

Human beings are "men, women, and children cared for either singly or as social units; and are the material object of nurses and others to provide direct care" (Orem, 2001, p.8).

## Health

- A state of wholeness of human beings or absence of signs and symptoms of disease (Orem, 1985).
- Patient's medical history and social history
- Physical, mental, and social health equally important

## Environment

- The patient's surroundings
- The patient's lifestyle
- The Institute of Medicine (2001) indicates the country's health care system is the environment and it is where nursing care takes place.

## Self-Care

- "Actions directed toward one-self and or environment to regulate one's functioning in the interest of one's life, integrating function, and well being" (Han, Lee, Commodore-Mensah, and Kim, 2014, p. E11).
- Self-care measures are a crucial part of blood pressure control and chronic disease management (Han, Lee, Commodore-Mensah, and Kim 2014).



### Hypertensive Self-Care Activity Level Effects Scale (H-SCALE)

- The Hypertension Self-Care Activity Level Effects Scale is an assessment tool designed to measure blood pressure control in relationship to the recommended self-care activities and behaviors.
- Has been used as an educational tool for patients and healthcare providers to measure hypertensive self-care behaviors

### H-SCALE

- The self-care behaviors measured by the H-SCALE are medication adherence, weight management, engaging in physical activity, reducing alcohol intake, avoiding or ceasing tobacco consumption, eating a healthy diet such as the DASH diet (Warren-Findlow, Basalik, Dulin, Tapp, and Kuhn, 2013).

### Self-Care Behaviors

#### Medication

- Take meds as prescribed daily at same time?

#### Diet

- Eat health diet which contains fruits, veggies, and whole grains?
- Avoid salty or brined foods?

### Self-Care Behaviors

#### Smoking

- Does the patient smoke, even one puff?
- Second hand exposure?

#### Alcohol

- Does the patient drink weekly?
- How much alcohol is consumed when you drink?

### Self-Care Behaviors

#### Weight Control

- Smaller portions, cut out sugary drinks, or unhealthy foods?
- Eat out less often?

#### Exercise

- Engage in 30 min of exercise most days of the week?
- Engage in weight lifting or strength training?

### Eighth Joint National Committee (JNC 8)

- In the general population persons greater than the age of 60 with systolic blood pressure greater than or equal to 150 mmHg or systolic blood pressure greater than or equal to 90 mmHg.
- In persons younger than the age of 60 or any adult with diabetes or chronic kidney disease with systolic blood pressure readings greater than or equal to 140 mmHg or diastolic blood pressure above or equal to 90 mmHg.

## JNC Treatment Guidelines



## General Population First-line Therapy

- Thiazide diuretics-HCTZ (Hydrochlorothiazide and Chlorthalidone)
- Calcium channel blockers (CCB)- Norvasc, Amlodipine, or Cardizem
- Angiotension converting enzyme blockers (ACE)- Lisinopril, Enalapril, or Benzapril
- Angiotension receptor blockers (ARB)-Losartan, Benicar, Divovan, or Avapro

## African American Treatment Guidelines

- The use of Thiazide diuretics (HCTZ) or Calcium Channel Blockers (Norvasc) are first line therapy for African American whether or not they have diabetes or chronic kidney disease.

### Diabetes Treatment Guidelines

- Goal BP 140/90 mmHg or less
- For black patients start with a CCB, TZD, or combination medication
- For non black patients start with ACE, ARB, CCB, TZD, or combination medication

### Chronic Kidney Disease Treatment Guidelines

- All ages and all races need to be treated with an ACE or ARB with a goal of 140/90 mmHg or less
- Includes medications such as Lisinopril, Benapril, Avapro, Diovan, Losartan ect.

### Elderly Treatment Guidelines

- Goal blood pressure readings 150/90 mmHg
- Medication choice will depend on the patient's race, or history of diabetes, or chronic kidney disease

## Case Study



## Susan Brown

- 62 y/o female, retired postal worker
- Married for 42 yrs, caretaker of 2 grandchildren ages 10 and 15, daughter in rehab
- Non-smoker, rare alcohol, eats out several days per week, walks daily, increased stress with daughter and grand children

## Susan Brown

- PMH: Hyperlipidemia and hypothyroidism
- Meds: Pravastatin 20mg QHS and Synthroid 50 mcg QAM
- BP: 172/90
- EKG: NSR, rate 68
- LDL 135
- TSH 2.5
- K 3.5
- GFR 75

### Self-Care Deficits

- High blood pressure
- Increased family stress
- Dietary (high fat and high salt diet)
- High cholesterol despite being on a statin
- Increased risk for CAD
- Overweight

### H-SCALE

- Medication
- Diet
- Smoking
- Alcohol
- Weight Management
- Exercise

### JNC 8



### JNC 8

- Over the age of 60 with BP above 150/90 mmHg
- Start a low dose ACE (Lisinopril)
- ARB (Diovan or Benicar)
- CCB (Norvasc, Amlodipine, or Cardizem)
- RTC in 2 to 4 weeks with documented home blood pressure readings

### Review

- Hypertension is the cause of more than half of the negative cardiovascular related events
- APN's can be the change agent for introducing hypertensive self-care measures to patients
- Encourage APN's to use the H-SCALE to assess patient level of self-care

### Review

- Encourage APN's to including elements from the H-SCALE in self-care patient teaching
- APN's should use JNC 8 evidence base guidelines when treating patients with hypertension

## Appendix D: Post Educational Questionnaire

1. Do you feel confident in treating patients with hypertension?
  - a. Confident
  - b. Somewhat confident
  - c. Not confident
2. Do you feel your patient's hypertension will be better controlled?
  - a. Yes
  - b. No
3. Will this module change the way you treat hypertensive patients?
  - a. Yes
  - b. No
4. Are you aware of any self-care measures available to involve your patients in their own healthcare?
  - a. Yes
  - b. No
5. Please list any self-care measures you are aware of following this module.  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
6. According to JNC 8, what is considered hypertension in the general population?
  - a. BP over 130/80 mmHg
  - b. BP over 140/90 mmHg



- c. BP over 120/80 mmHg
7. What are the treatment goals for hypertensive patients over the age of 60?
- a. 140/90 mmHg
  - b. 150/90 mmHg
  - c. 160/90 mmHg
8. Which of the following self-care behaviors can improve hypertensive outcomes?
- a. Keeping doctor's appointments
  - b. Using Kosher salt instead of table salt
  - c. Drinking red wine since its good for the heart
  - d. None of these
9. What is the H-SCALE?
- a. A type of blood pressure measurement technique
  - b. A tool used for patients and providers to help improve blood pressure outcomes
  - c. A low salt and low-fat diet for hypertensive patients
10. Which classes of medications are not first-line recommendations for patients in the general population with hypertension?
- a. Beta blockers (Metoprolol or Coreg)
  - b. ACE or ARB's (Lisinopril or Diovan)
  - c. CCB's (Norvasc or Cardizem)
  - d. TD (HCTZ or Chorthiodone)

11. Patients with chronic kidney disease (CKD) should be started on what type of blood pressure medication?
- a. CCB (Norvasc or Cardizem)
  - b. ACE or ARB's (Lisinopril or Diovan)
  - c. ACE and ARB's (Lisinopril or Diovan)
12. If a patient's blood pressure is not controlled with three medications at maximum doses, the APN should do what next?
- a. Evaluate the patient for secondary causes of hypertension
  - b. Refer to a cardiologist or nephrologist
  - c. Review self-care measures
  - d. All of the above