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Staff Education: Hypertension Management for Adults in Primary Care Settings

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This is to certify that the doctoral study by

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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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Abstract

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MS, Walden University, 2015

BS, Prairie View A & M University, 1988

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Management of hypertension and its complications requires health care providers to understand the reason for developing the disease. Complications of hypertension (HTN) are more prevalent when patient interventions are not consistently performed by staff. A gap in staff knowledge regarding the management of patients with HTN was noted at an outpatient clinic in the southwestern United States. A staff education project based on the Eighth Joint National Committee (JNC-8) guidelines for HTN management was developed to address the gap in knowledge. This DNP project sought to understand the impact of an evidence-based staff education program in improving the knowledge of nursing staff on HTN management. The health belief model and social cognitive theory guided the project. Three expert panelists evaluated the education program content and agreed that the content was relevant to clinical practice and would improve staff knowledge regarding management of HTN. Eight nurses participated in the education program, first completing a pretest questionnaire followed by educational program content in digital format. Participants reviewed the program for 1 week followed by a PowerPoint presentation at a staff meeting. Posttest questionnaires were completed by 7 participants using a 5-point Likert scale ranging from completely unaware to completely aware. Posttest results indicated that nursing staff knowledge increased to completely aware (100%) of the JNC-8 guidelines for HTN management compared with completely unaware before the program. The project emphasizes the potential for positive social change when translating evidence to practice through staff education to improve patient management and outcomes for the treatment of HTN.

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Dedication

This project is dedicated to my delightful husband and lovely children who have stood by me through this scholarship journey. The sacrifice that my husband and children has made for me to get this DNP program completed cannot be quantified in monetary value. Together, they have proven that unity and love in family is one of the most vital values available to humanity.

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I thank God Almighty for given me the wisdom, knowledge and understanding needed to achieve my goals as a DNP-scholar. God has given me the strength I need to embark on this hectic scholarship journey. If not for God on my side, I would have not been able to complete this stressful project. My thanks go to the Walden University for given me the opportunity needed to continue with my DNP program after my master's degree program. My special thanks to Dr. Cheryl McGinnis for her persistent and gentle prodding. Without her support and mentoring, I would not have been able to move on with this hectic schedule. Her encouragement was instrumental and has given me the courage needed to push through my prospectus. Again, to my delightful husband and lovely children, no matter the obstacles faced in life, may this achievement show them that they can achieve anything they set their mind to do in life.

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Section 1: Nature of the Project

Introduction

Hypertension is an unsafe elevation of a person's blood pressure (BP), be it the systolic blood pressure or the diastolic blood pressure or both. The American College of Cardiology (2018) categorizes a normal BP in adults as a systolic reading of 120 mm Hg and a diastolic reading of 80 mm Hg. Contributory factors in hypertension (HTN) include stress, obesity, medication, inactivity, and poor dietary choices. Studies have shown that elevated BP is a leading risk factor for cardiovascular disease (Liu et al., 2013; Proia, 2014). Many studies have also indicated that treatment and control of HTN is essential for preventing stroke, heart failure, and kidney disease (Borden et al., 2014; James et al., 2014)

Other studies indicate HTN is the most common health condition seen in primary care. When not detected early or when left untreated, HTN leads to myocardial infarction, stroke, renal failure, and death (American Health Association [AHA], 2017; James et al., 2014). Hypertension thus reduces the quality of life for millions of Americans

Globally, HTN has remained a serious health issue, with an estimated 1.5 billion individuals worldwide expected to have the disease by the year 2025 (Himmelfarb, 2014). The World Health Organization (2013) identified HTN as the underlying cause of 51% of stroke deaths and 45% of deaths from heart diseases. It is also estimated that by the year 2025, HTN will account for 50% of heart disease risk and 75% of stroke risk (Himmelfarb, 2014). Hypertension increases patient's vulnerability to cardiovascular diseases, vision problems, and renal failure (AHA, 2017). These adverse health

conditions are more prevalent when interventions are not consistently performed as specified by evidence-based guidelines. Some of the factors that have caused the poor management of HTN in primary care settings are the poor lifestyles choices and non-adherence to medications by the patients. Hypertension has thus remained a significant problem in many healthcare settings and is one of the greatest challenges in nursing care (Mancia et al., 2013)

As of 2013, more than 78 million adults in the United States have HTN, and about 47% of those individuals did not engage in any interventions for the health condition or did not take their medications regularly (Go et al., 2013). A National Health and Nutritional Evaluation Survey found that between 2007 and 2010 about 81.5% of Americans with HTN were aware they had the disease but only about 75.9% received treatment (Kuzni et al., 2013). Of those receiving treatment, approximately 52.2% had the disease under control (Kuzni et al., 2013). The Centers for Disease Control (The Centers for Disease Control [CDC], 2015) indicated that about 360,000 Americans died from the complications associated with HTN in 2013. In the same year, HTN treatment and management cost the United States approximately $46 billion (CDC, 2015).

As of 2014, an estimated 78 million Americans had HTN, representing one in every three adults overall, and two in every three adults 60 years or older (Go et al., 2014). With improvement in awareness of blood pressure treatments and control, HTN control improved from about 27.3 % in 1994–1998 to about 50.1% in 2007–2008 (Borden et al., 2014). These improvements also brought a strong and steady decline in cardiovascular morbidity (Borden et al., 2014). In addition, with these improvements in

BP control, the United States experienced a fourfold reduction in the rate of stroke mortality from about 88 per 100,000 persons in the 1950s to about 23 per 100,000 persons in 2010 (Lackland et al., 2014). However, despite improvements in the treatment, control, and management of HTN in the United States, only about 50% of patients with HTN received treatment in 2014 (Go et al., 2014).

In the United States, about 25% of those with HTN are unaware and about 30% of those that are aware of their hypertensive condition are not in care (Himmelfarb, 2014). Although about 45% of patients with diagnosed HTN are in care, control is achieved in only about 54% of those patients (Go et al., 2013; Himmelfarb, 2014).

This data shows that despite the existence of evidence-based guidance on the management of HTN, as well as the availability of various therapeutic options, achieving success in controlling HTN remains a major challenge (Mancia et al., 2013). The prevalence rate of HTN is increasing, and the control rate is not satisfactory (Zhu et al., 2018). For this reason, the need for staff education on managing blood pressure is crucial, as even a reduction of 10 mm Hg in systolic blood pressure or 5 mm Hg in diastolic blood pressure lowers the average risk of mortality from coronary heart disease by about 22% and from stroke by about 41% (James et al., 2014).

Studies have also shown that staff education elicits positive changes in HTN control and management as a result of increased knowledge on this subject. Such positive changes include compliance to Joint National Committee (JNC-8) guidelines, medication adherence, and lifestyle changes (Eckel et al., 2014). Go et al. (2014) found this same positive association between the application of evidenced-based guidelines and increased

staff education and the improvement in control of HTN. Another study (Azubuike & Kurmi, 2014) found that poor staff education of evidence-based guidelines could adversely affect control and management strategies (Azubuike & Kurmi, 2014).

The implementation of evidence-based guidelines for HTN treatment and management protocols and of performance reviews has been associated with substantially improved HTN control in clinical settings (Go et al., 2014). Multiple evidence-based HTN control and management guidelines have been developed by such bodies as the Joint National Commission on Hypertension [JNC-8]. Most clinical practitioners rely on evidence-based practice guidelines for the treatment and control of HTN; including those issued by the JNC-8. The JNC-8 recommends targets of less than 150/90mm Hg for patients of 60 years and older, and less than 140/90mm Hg for those with diabetes or chronic disease. The American Academy of Physicians (2014) recommends the JNC-8 guidelines for HTN management and control in adults.

The involvement of nurses in control of HTN began with measuring and monitoring blood pressure and educating patients (James et al., 2014). Nurses' roles expanded in the 1960s and 1970s to complement and supplement the clinical duties of physicians (Himmelfarb, 2014). With the introduction of evidence-based protocols to guide practice nurses and availability of training programs, nurses acquired the skills to assess a patient's health status (Himmelfarb, 2014). Nurses also acquired the skills to address barriers to care and control of HTN, allowing them to become more involved in the assessment and management of HTN (Himmelfarb, 2014). These advancements to the roles of nurses led to the development of the position of advanced practice nurse (nurse

practitioner). Nurse practitioners have the legal authority to prescribe medications, including antihypertensive therapies (Himmelfarb, 2014). Nurse practitioners are also able to help manage hypertension with detection; referrals and follow-ups; diagnosis; prescription of medication; patient education and skill building; coordination of care; and performance measurement and quality improvement (Himmelfarb, 2014).

Problem Statement

The project setting was an outpatient clinic located in the Southwest United States. The clinic provides primary care services to about 2,000 patients, and about 800 of the patients have been diagnosed with HTN. One nursing care challenge in the clinic is that the nursing staff is not adequately aware of the JNC-8 guidelines for controlling and managing HTN. The poor HTN control for clinic patients could be attributable to patient nonadherence to the medication regimen, inadequate patient self-management support, and inadequate staff intervention measures, such as patient education on lifestyle modification. Other challenges are that referrals to pharmacists and dieticians are not followed-up, and the healthcare providers have a limited amount of time to educate patients on lifestyle modification and medication adherence. The incidence of HTN continues to rise, and its complications impose huge financial burdens on the healthcare system and on individuals and their families (Himmelfarb, 2014; Go et al., 2013).

Although guidelines for treatment of HTN are available, patients' blood pressure levels have not been kept within the defined parameters and nursing staff are not consistently implementing interventions for HTN management. Lack of adequate knowledge of the JNC-8 guidelines is frequently observed with the staff of the clinic.

Thus, whereas the national average for patients with controlled HTN is 52.2% (Go et al., 2013), the clinic's patient information shows only about 25% of its patient population with controlled HTN. The identified gap in practice is that nursing staff lack knowledge on the current JNC-8 HTN guidelines and therefore do not apply the JNC-8 guidelines to patient management. Consequently, 75% of the clinic's hypertensive patients do not meet the targets set by the guidelines. This gap in practice contributes to the low average rate of control of HTN in adults in primary care settings, which is 27.2% lower than the national average. This makes the staff education necessary and significant to nursing practice.

Purpose Statement

The main objective for the project was to educate the clinical staff in an outpatient clinic in the Southwest United States on the JNC-8 guidelines for adult HTN control and management. The project provided the nursing staff with an education program based on the JNC-8 guidelines. The project goal was to improve patient outcomes through staff education that emphasizes compliance with JNC-8 guidelines. The expected outcomes would be improved staff knowledge to support patient medication adherence and lifestyle modifications ultimately reducing the potentials for such complications of HTN, as stroke, renal failure, and myocardial infarction.

The guiding practice-focused question for the project was: Will staff education of evidence-based guidelines improve the knowledge of nursing staff regarding management of hypertension in primary care settings? By identifying the knowledge gap and leading staff education initiatives to improve patient outcomes, this project has

potential to address the gap-in-practice. The project also has the potential to effect positive social change through increased nursing knowledge and skill, and improved management of patients with HTN.

Nature of the Doctoral Project

I developed an educational program for the nursing staff at the clinic on the JNC-8 guidelines for the control and management of HTN. These evidence-based guidelines include blood pressure parameters and instruction for self-monitoring, medication adherence, and lifestyle modification. The participants consisted of three nurse practitioners, three registered nurses, and two licensed vocational nurses. The program was guided by evidence-based guidelines as outlined by the JNC-8, as well as information obtained from the literature review.

I performed a literature search using Walden library databases, including the Cumulative Index to Nursing and Allied Health Literature (CINAHL), ProQuest, Cochrane Library, PubMed, Elton Stevens Company (EBSCO), and Google Scholar. In performing the literature review, I utilized the following terms; *hypertension, hypertension management, evidence-based approach to hypertension education, hypertension control education,* and *staff education on hypertension.* Other key terms included "*hypertensive patients*", "*staff knowledge of hypertension*", and *hypertension control and management guidelines",* as well as a combination of these search terms.

The goal of the project was to develop a staff education program for nursing staff at a local clinic to adequately manage HTN as outlined in the JNC-8 guidelines. The

JNC-8 guidelines, which will be the primary source of the evidence, were supported by a comprehensive literature review of HTN.

Using the JNC-8 guidelines as the foundation, I educated the staff on the health goals of HTN management such as the age parameters for the diagnosis of HTN, medications used for the management of HTN in patients with chronic kidney disease, diabetes and labile HTN. My education of staff also included targeted acceptable blood pressure for the various age groups. I educated them on lifestyle modifications and complications associated with HTN. Lifestyle modification involves physical activities such as aerobic exercises at least three times a week for 30 minutes, smoking cessation and changes in diets to include low sodium and low-fat diet. As per Go et al. (2013), lifestyle modifications for reducing high blood pressure and controlling HTN include diet changes, increase in physical activity, smoking cessation, and weight loss. The Dietary Approach to Stop Hypertension (DASH) served as the dietary modification requirement of the proposed project. The DASH initiatives promote diets that are rich in vegetables, fruits, low-fat dairy and lean protein; increasing physical activity; and reducing salt intake to improve BP levels (Eckel et al., 2014). As indicated in the JNC-8 guidelines, DASH is a crucial component of the lifestyle modifications for controlling HTN.

Intervention Measures

The development of a staff education program using the current JNC-8 HTN research (EBP) guidelines helped to accomplish the goal of translation of evidence-based into practice for improved quality of patient care. Providing nursing staff with education on HTN control and management in adults helped to fill the educational gap between

clinical nursing staff and the current EBP guidelines for adult HTN management in a primary care setting. The staff education program focused on the elements emphasized in the JNC-8 guidelines and the reviewed literature: medication adherence, lifestyle modifications, patient education, and self-management support. I also included education for creating support systems for the patients' education and self-management efforts toward assisting the patients achieve the goals of HTN management.

Medication adherence. The JNC-8 guidelines promote patient adherence to medication. In the United States, only about 50% of patients have good control of their BP (Gwadry-Sridhar et al., 2013). Nonadherence to medication is a contributor to the poor control of HTN (Gwadry-Sridhar et al., 2013). Consequently, insufficient adherence to medications constitutes major barriers to managing HTN such as failure to fill prescriptions (Gwadry-Sridhar et al., 2013).

Lifestyle modifications. JNC-8 guidelines also promote lifestyle modifications such as quitting smoking, controlling lipids in diets, eating healthy, moderating alcohol consumption, reducing salt intake to no more than 2,400 mg a day, engaging in physical activity, and partaking in moderate-to-vigorous activities 3 to 4 days per week for an average of 40 minutes per session.

Staff education strategies should promote attitudes, beliefs, and behaviors that help patients control HTN. Attitudes, which are usually formed by a series of beliefs, are favorable to the behaviors and outcomes that are positive to the individual. Whatever positive attitudes that contributes to the management of HTN such as the control of social

stress, physical activities, weight reduction, and dietary control was emphasized. If the patient believes patient is more likely to embrace such a lifestyle.

Patient education. Patient education is a crucial aspect of HTN management strategies for clinic patients. Educating patients about the evidenced-based guidelines for HTN management helps ensure effective control of the disease. Babaee et al. (2014) found that an increase in patient knowledge of HTN leads to a decrease in such negative health behaviors as nonadherence to medication and physical inactivity. Healthcare providers must explain clearly to patients what medication should be taken, how much, how often, and when. Providing patients with knowledge of the consequences of not adhering to medications is also very important. Furthermore, educating staff on the importance of providing this information to patients could drive improvements in self-management behaviors. Therefore, by educating clinic staff, the clinic would have the potential to empower their patients to improve their lifestyles and self-care behaviors.

Self-management support. According to Zhu et al. (2014), self-management support should involve a staff education program that in turn helps the staff to educate patients on the need for self-management. Staff learned to encourage patients to discuss health conditions and certain goals and help patients make plans. The program also taught staff to provide relevant information and resources on self-management to patients. The education program included providing booklets with text and pictures that can further enhance patient knowledge of methods for self-management of HTN.

Significance of the Project

The nursing staff of the clinic required more education regarding compliance to the JNC-8 guidelines for the control and management of adults with HTN**.** Providing the platforms for healthcare providers to become more conversant with guidelines and best practices for improving HTN treatment and control is essential to reducing risks of other cardiovascular diseases (Pearson et al., 2013). As Pearson et al. (2013) observed, education and training are positively associated with HTN control and management. Therefore, staff education is needed to improve the knowledge of the nursing staff; to improve patients' quality of life; and to reduce health costs arising from HTN complications. Improving clinic's nursing staff's knowledge of HTN control and management methods play an important role in reducing the disease's damaging effects.

As previously stated, staff knowledge of evidence-based guidelines on HTN control and management play a crucial role (Go et al., 2014) in providing optimal care. For this reason, I provided staff with education that was based on evidence-based guidelines, which cover issues such as criteria for the diagnosis of HTN, medications used for appropriate ages and disease co-morbidity, patient self-management, intervention measures, medication adherence, patient education, performance measurement, and lifestyle modifications.

The stakeholders that supported the project included the medical director, clinic manager, and the clinic supervisor. The medical director was impacted by the potential benefits of using the project outcomes for current and future staff education. The clinic manager and the clinic supervisor could use the project as reference and guiding modules

for in-service staff training on the control and management of HTN in adults in primary setting. The project thus helped to fill the gaps in practice regarding HTN control and management in the primary care clinic. The project also helped to fill knowledge gaps by instructing nursing staff on the evidence-based practice guidelines for the control and management of adults with HTN in a primary care setting. My goal for the project was to prevent potential cardiovascular complications by providing staff education on preventative care and to minimize the challenges primary care clinics face in improving management of HTN. The use of evidence-based guidelines in this project will help other clinics control and manage HTN; thereby reducing the occurrence of such complications as cardiovascular and renal disease.

The implication for positive social change is that the project helped emphasize the need for primary care clinics to develop regular staff education programs on the control and management of HTN using current practice guidelines that is supported by sound scientific research evidence. In addition, staff education could reduce the number of problems arising from inadequate control of HTN. Increased education for staff can also produce beneficial effects for the patients, families, and communities.

Summary

The purpose of the project was to help provide a staff education program on the control and management of HTN in adults in a primary care setting. Section 1 included the significance of the project, defining the practice problem, purpose and project goals. The education program helped increase the knowledge of nursing staff, resulting in a positive outcome of increased rate of HTN control in adults in primary care settings. The

implementation of a staff nurse education program on HTN control and management has the potential to improve clinical outcomes for patients. With this project, the DNP could exhibit clinical proficiency by identifying knowledge gaps and leading staff education initiatives to improve patient outcomes and reduce the cost of high-quality patient care to the patients, families, and communities. I performed an assessment of current knowledge of HTN control and management methods that were outlined by the JNC-8 guidelines, with the purpose of identifying gaps in knowledge. I implemented a staff education program to help inform and improve the knowledge of the nursing staff on HTN control and management. Section 2 will include the background, context and theoretical framework to support this project. I discussed the relevance of the project to nursing practice and applied to the local clinic setting.

Section 2: Background and Context

Introduction

The purpose of the project was to introduce an educational program to inform the nursing staff at the local clinic of evidence-based practice (EBP) guidelines for the control and management of HTN; with a focus on the application of JNC-8 guidelines. The practice problem was that nursing staff lack knowledge on the current JNC-8 HTN guidelines and therefore do not apply the JNC-8 guidelines to patient management. The guiding practice-focused question for this project was: Will staff education of evidence-based guidelines improve the knowledge of nursing staff regarding management of hypertension in primary care settings?

In line with the JNC-8 guidelines, the education program included evidence-based guidelines in therapeutic methods, age variability for HTN management medication adherence, and lifestyle modification. The Dietary Approach to Stop Hypertension (DASH) was explained to fulfil the dietary modification aspect of the proposed project. The DASH initiatives promote diets that are rich in vegetables, fruits, low-fat dairy, and lean protein; increase physical activity; and reducing salt intake for improving BP levels (Eckel et al., 2014). As indicated in the JNC-8 guidelines, DASH is a crucial component of the lifestyle modifications that are necessary for controlling HTN. I developed an education that remained part of the continuing staff education programs of the clinic with the purpose of improving patient care and maintaining the sustainability of the project post the education period. The success of the project was demonstrated by an increase in the nursing staff's knowledge of the control and management of HTN in

adults in primary care settings. The expected effects of the project on patients were a better knowledge and strategies for HTN self- management and enhancement of the possibilities of healthier life. In section 2, I explained the applicable theory and model used to support the education project. The relevance of the project to the field of nursing and local context was also discussed.

Concepts, Models, and Theories

The theoretical framework for this DNP project was the social cognitive theory {SCT} and the health belief model {HBM}. The frameworks of the SCT and HBM was used to develop the education module on creating support systems for the patients' self-management efforts; and thereby assist the patients to achieve the goals for HTN management.

Social Cognitive Theory

The assumption of the Social Cognitive Theory [SCT] is that other people could influence the behavior of others (Hayden, 2019). As an interpersonal-level theory in which personal and environmental factors play interacting roles, SCT is an important construct for explaining health behavior. The SCT, as a model has been used for improving self-management behaviors of HTN patients (Borhaninejad et al., 2017). The SCT thus serves as a model for developing a patient education module for the staff of the clinic. Influence could be exercised by offering emotional support, counseling, sharing thoughts and feelings, or by offering other forms of assistance (Hayden, 2019). Thus, the SCT can be used to develop a model for improving self-management behaviors in patients with HTN (Borhaninejad, et al., 2017). The SCT integrated various concepts

within the human social contextual framework (Bandura, 1977) to integrate human information processing capacities (Bandura, 1986) and then to accommodate the adaptive capacities of groups and societies (Bandura, 1997). Lately, the theory used processes that portray self-determination and moral behavior (Bandura, 1999). The key concepts of the SCT are self-efficacy, expectations, expectancies, facilitation, self-regulation, observational learning, reinforcement, behavioral capability, and locus of control. The education module of the project was presented from the perspectives of self-efficacy, facilitation, and self-regulation.

Self-efficacy. A construct of SCT used to create HTN management programs is self-efficacy, which is the belief in one's ability to attain set goals. Thus, the HTN management program should set such goals that are attainable by the individuals. Self-efficacy theory as a predictor of health behavior essentially focuses on such personal behaviors as knowledge, attitudes, experiences and beliefs (Hayden, 2019). A construct of the SCT that was used to create staff education modules for the control and management of hypertension is self-efficacy; which is the belief in one's ability to attain set goals. In other words, the concept is based on the individual's belief in his or her ability to embark on the attitudes and behaviors that would bring about desired outcomes (Glanz et al., 2008). As the mastery experience aspect of self-efficacy construct indicates, individuals tend to become engaged in things they believe they can accomplish (Hayden, 2019). Thus, the HTN management program should set such goals that are attainable by the individuals.

Facilitation. The facilitation concept entails the provision of resources and/or necessary environmental changes that enable the new behaviors (Glanz, et al., 2008). The principal aim is to influence behavior by providing new resources or structures that would make performing new behaviors easier. The facilitation concept stresses the importance of identifying and removing barriers to the desired outcomes.

Self-regulation. Self-regulation concepts are based on the ability to control oneself by means of goal setting, self-monitoring, self-instruction and enlisting in necessary social support resources for exerting self-control (Glanz et al., 2008). The SCT model emphasizes the endurance of short-term adverse outcomes for the benefit of positive long-term outcomes as commonly achievable through self-regulation. Self-control is acquired through the development of the necessary skills to manage oneself. To achieve self-control, patients will be imparted the skills to learn: (a) self-monitoring by observing and recording behavior on medication adherence and dietary management; () goal setting by identifying changes that can be obtained; and (c) enlistment of social support such as HTN resources, networks, and groups. The use of support groups and resources was crucial for patients who intend to modify their lifestyle patterns to set goals. The support system was essential in reducing stress and managing HTN. In these ways, the social cognitive theory can be used to explore control and management of HTN in adults in primary care settings

The Health Belief Model (HBM)

The theoretical concept of the HBM indicates that health behavior is influenced by personal beliefs or perception based on knowledge, attitudes, beliefs, experiences,

skills, culture, and religion (Hayden, 2019). The model is commonly used in health education and promotion, especially to explain and predict health behaviors by focusing on an individual's beliefs and attitudes (Onoruiza et al., 2015), and as a guiding framework for health behavior interventions (Glanz et al., 2008). In terms of HTN, perceptions to consider are the seriousness, susceptibility, benefits, and barriers surrounding the condition. These conceptual aspects of HBM, namely: seriousness, susceptibility, benefits, and barriers were used to predict or explain why individuals take actions to prevent or control illness conditions, as well as analyze how the personal beliefs and attitudes of the patients relate to the control and management of HTN.

When people perceive that they are susceptible to a disease, they tend to change their health behavior. This perceived susceptibility construct is considered one of the most powerful prompts for people to adopt healthier behavior (Hayden, 2019). As Hayden (2019) indicates, the greater the perceived risks, the greater the chances a person will engage in behaviors to decrease the risk. Although the prevalence rate of HTN is high, patients may not always adhere to control and management behavior, as they may not see themselves at risk of the possible complications of HTN. For this reason, in educating hypertensive patients, it would be advisable to personalize the risks based on individual characteristics or behavior (Glanz et al., 2008).

The perceived seriousness construct deals with the individual's belief regarding the severity of the disease. The knowledge of the seriousness of a disease usually comes from medical information or personal belief (Hayden, 2019). The perceived seriousness also indicates the individual's belief of the extent of the losses that could result from

getting a disease as caused by a specific behavior (Araban, Baharzadeh & Karimy, 2017). Although patients may consider HTN to be severe, they usually do not understand the impact of their personal behavioral on the development of the disease and associated complications. Consequently, they do not always adhere to the programs that could assist in controlling and managing their HTN. To educate the patients, the nursing staff would have to specify the consequences of the conditions.

The construct of perceived benefits reflects the individual's opinion of the usefulness of new behavior in decreasing the risk of disease (Hayden, 2019). For the patients to adopt the recommendations of the JNC-8guidelines, the perceived benefits must be greater than the consequences of continuing the old behavior. Most patients may not consider the new behavior required for achieving control and management of HTN as beneficial. To gain more positive results from perceived benefits, Glanz et al. (2008) recommended that actions be defined, and the expected positive effects clarified.

Individuals perceive different barriers to change. The construct of a perceived barrier is therefore applicable to the understanding of patients' health behavior (Hayden, 2019). These perceived barriers indicate patients' beliefs about the advantages of pursuing a new behavior. Some patients may have strong personal or cultural beliefs about HTN, how it should be treated, and whom they can turn to for health assistance. Conflicts with these beliefs are the patients' perceived barriers. When HTN treatment options conflicts with these beliefs, patients tend to become fearful of or alienated from healthcare workers, thereby putting effective adherence to treatment regimens in

jeopardy. Glanz et al. (2008) suggested that the perceived barriers be identified and then reduced through correction of misinformation, resource assistances, and reassurances.

As the HBM suggests, the response of the individual is predictable based on one's perception of the susceptibility, severity, benefits, and barriers surrounding their health condition. If the individual perceives susceptibility to an illness or an adverse health condition, believes could be serious consequences arising from the illness, believes the recommended course of action can prevent their susceptibility to or reduce the severity of the illness, and believes that the benefits of taking the recommended remedies outweigh the real or perceived barriers, such an individual is likely to take the recommended course of action. Therefore, the propensity to act on a recommended health action is predominately dependent on one's perceptions (Glanz et al., 2008). The HBM provided a useful theoretical framework for the staff education element of the project. The nursing staff can, thereafter, share what they have learned with the hypertensive patients of the clinic. The model also served as the framework for patient education aimed at bridging the gap in knowledge, thereby improving the patients' health. Once the patients have perceived their susceptibility to the complications of HTN, realized the severity of their condition, and appreciated the benefits of reducing the chances of developing complications of HTN, better health outcomes can be expected.

Relevance to Nursing Practice

This project is relevant to nurses, as it is based on the need to increase the knowledge and awareness of nursing staff of the JNC-8 guidelines on control and management of HTN. My project will provide the nursing staff with an education

program on HTN control and management in adults in the primary care setting. I focused on improving blood pressure control in the hypertensive patients within the primary care clinic, with the aim of improving patient outcomes by emphasizing the importance of medication adherence and lifestyle changes. As previously mentioned, my project helped to improve health outcomes for the hypertensive patients of the clinic by providing the clinic staff the required education on the evidence-based practice guidelines to control and manage HTN. The development of self-management support measures, intervention measures, adequate patient education, and dietary education for the staff of the clinic makes the project relevant to nurses.

Hypertensive patients have been determined to be susceptible to cardiovascular and renal diseases. The implementation of evidence-based guidelines could improve patients' outcomes by helping to prevent these diseases. Therefore, my educational module, which is aimed at improving staff knowledge on evidence-based guidelines for HTN control and management, will be relevant to the provision of optimal care to the HTN patients in the clinic.

Local Background and Context

Hypertension is a common disease among adults in the United States, with 1 in every 3 adults having the health condition (Go et al., 2014). High incidences of uncontrolled HTN are reported for the healthcare facility in question, which results in adverse healthcare outcomes for the HTN patients of the clinic. Although there may be no singular explanation for the poor HTN control in the clinic, nonadherence to medication regimens, lack of self-management support, lack of intervention measures,

inadequate patient education, lack of dietary education, and lack of performance measurement can be identified as major contributory factors. A review of patients' clinical records showed that the primary reason for poor health outcomes in the clinic could be summarized as the non-adherence of nursing staff to evidence-based guidelines on the control and management of HTN, such as those provided by JNC-8. The management of HTN would further assist in the prevention of many cases of cardiovascular and renal problems as these can result from uncontrolled HTN.

Some major challenges in the implementation of the evidence-based control and management protocols in the care of hypertensive patients in this setting arise from limitations to staff education. There is also reason to believe that the nursing staff of the clinic faces practical limitations to adhering to evidence-based guidelines for HTN control and management. These practical limitations include the lack of adequate knowledge of the JNC-8 guidelines as an ongoing research and changing model in assisting primary care clinics in using the best practice method of care delivery and work-related stress that is often encountered by staff in primary care settings due to time constraint.

Hypertensive patients that smoke or are inactive, obese, or highly stressed are vulnerable to cardiovascular and renal complications; staff education on managing these risk factors to control HTN becomes crucial for the daily care of hypertensive patients in primary care settings. With the high incidences of hypertension in the United States, it is important to explore such intervention measures as staff education to help ease the burden on patients and caregivers. The nursing staff also benefited from this staff

education project, as demonstrated by Pearson et al. (2013) who found that education and training have been positively associated with HTN control and management. Therefore, this staff education program aimed at improving staff knowledge of evidence-based guidelines on HTN control and management will be an important aspect of providing optimal care for the HTN patients in the clinic. The context applicable to the problem of inadequate control and management of HTN are both state and federal; most of the patients are covered by Medicare and Medicaid insurances.

As suggested by the JNC-8 guidelines, the diagnoses of HTN in this project is determined by a Systolic Blood Pressure (SBP) reading of more than 150 mm Hg for patients who are 60 years of age and older or a Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for the same age group. For the patients with diabetes mellitus at any age and those between 18 and 59, an SBP higher than 140 mm Hg or a DBP higher than 90 mm Hg is hypertensive. Therefore, a healthy or well-controlled blood pressure reading will be defined as SBP readings below 140 mmHg or DBP readings below 90 mmHg for individuals with diabetes mellitus at any age and those between 18 years and 59 years. For individuals 60 years of age or older, SBP readings below 150 mmHg or DBP readings below 90mm Hg will be considered healthy.

Role of the DNP Student

I developed and presented an evidence-based educational program for nursing staff regarding the need to ensure that patients have a full understanding of HTN management. The staff education program was developed following the guidelines in the DNP Staff Education Manual. This was necessary as studies have also found

inadequacies in the knowledge of patients regarding the control and management of HTN.

I provided the nursing staff with platforms for patient education. I also included identifying possible barriers for the patients ability to learn and participate in self-care management, using the information provided by the clinic, providing education to the nursing staff regarding the need to ensure that the patients have a full understanding of HTN management as well.

My motivation was that staff education can fill the educational gap in clinical nursing education by providing staff with knowledge of evidence-based practice guidelines for the control and management of adults with HTN in a primary care setting. My knowledge of the issues of lack of knowledge of the JNC-8 guidelines and DASH guidelines by the clinical staff may have introduced some biases. I however, reduced these biases by using reference materials from peer review literature to support the study conclusion.

Summary

Section 2 explored the model and theory that supported the project. The theoretical concept of the Health Belief Model (HBM) guided the program. Additionally, the Social Cognitive Theory (SGT) was used to guide the development of the nursing staff education for use of evidence-based practice as outlined in the JNC-8 guidelines. The Dietary Approach to Stop Hypertension (DASH) initiatives serves as a dietary modification requirement of the project. The stakeholders who supported this project included the medical director, clinic manager, and clinic supervisor. The medical director

is a physician, while the clinic manager and supervisor are nurse practitioners. The education program implemented by the project empowered the nursing staff to educate patients with HTN. It was hoped that as primary care providers, the nursing staff thereafter understood the importance of applying evidence-based guidelines in controlling and managing HTN. The staff education program created support systems for the patients' self-management efforts and assisting the patients to achieve the goals for HTN management. With this program, the nursing staff was taught about the management of HTN and the need for medication adherence and lifestyle modification. I developed the educational program for nursing staff at the primary care setting. Section 3 focused on collection and analysis of evidence.

Section 3: Collection and Analysis of Evidence

Introduction

The problem that I identified in the clinical practice was that nursing staff lack knowledge on the current JNC-8 HTN guidelines, and therefore do not strictly applying the JNC-8 guidelines to patient management. The project aimed at educating the clinical staff on the JNC-8 guidelines for adult HTN control and management. The participants consisted of three nurse practitioners, three registered nurses, and two licensed vocational nurses.

The program was guided by evidence-based guidelines as outlined by the JNC-8. The goal of the project was to develop a staff education program to help the nursing staff at a local clinic adequately manage HTN in the ways outlined in the JNC-8 guidelines. The JNC-8 guideline, which was the primary source of evidence, was supported by a comprehensive literature review of hypertension.

Section 3 included a description of the planning, implementation, and evaluation of the education program. The project question was: Upon completion of a structured staff education, will nursing staff perceive an increased competence and understanding regarding management of hypertension in primary care settings? The project followed the guidelines in the Walden University Manual for Staff Education (2017), addressing planning, implementation and evaluation.

Planning

The planning phase was accomplished as follows:

1. Established the need for staff education program

2. Obtained a commitment from the nursing leadership with a signature on the Site Agreement Form from the Walden University Education Manual
3. Developed content for staff education program that involve resources, objectives, content, delivery strategy, instructional methods, and evaluation
4. Reviewed the program with the stakeholders and made changes as recommended
5. Finalized staff education program with the stakeholders

Stakeholders

The stakeholders that supported my project included the medical director, clinic manager, and the clinic supervisor. The medical director is a physician, while the clinic manager and supervisor are nurse practitioners. I formally invited people to serve on the project committee by means of anonymous consent. The medical director provided clinical support for the project, and gave guidance regarding the clinic protocol, and confirmed a commitment of support by the Executive Management Committee of the clinic. The clinic manager with responsibility for the clinical services furnished insight into the practice of nurses and the challenges they are facing in management of HTN in a primary care setting. The clinic supervisor gave support as a content expert.

I developed, implemented and evaluated the pilot program. I then handed over results of the pilot program to the institution for adoption and implementation.

Education Program

I have reviewed the literature for evidence on the need for staff education programs on the control and management of HTN. The staff education program applied current evidence-based practice guidelines for the control and management of HTN in

adults in a primary care setting. Content was delivered by variety of teaching methods, leading staff education initiatives to improve patient outcomes and reduce the overall cost of high-quality patient care to the patients, families, and communities.

The overview of the staff education program included the following:

1. Responsibilities and roles of the clinical staff using evidence-based-practice
2. Principles of Reducing problems with inadequate control of HTN based on the JNC-8 and DASH guidelines
3. Relating the Social Cognitive Theory (SCT) and Health Belief Model (HBM) to the education program
4. Improvement in patient-care outcomes
5. Creation of a positive social change

Practice-Focused Questions

The following was the guiding practice-focused question for this project: Will staff education of evidence-based guidelines improve the knowledge of nursing staff regarding management of hypertension in primary care settings? The practice-focused question addressed the identified gap in nursing practice with the implementation of a staff nurse education program on HTN control and management, which has the potential to improve clinical outcomes for patients. The national average for patients with controlled HTN is 52.2% (Go et al., 2013), whereas the clinic's patient records show only about 25% of its patient population with controlled HTN. This was an identified local problem. Moreover, 75% of the clinic's hypertensive patients did not meet the targets set by the guidelines.

By identifying the knowledge gap and leading staff education initiatives to improve patient outcomes and reduce the overall cost of high-quality patient care to the patients, families, and communities, the DNP helped achieve clinical proficiency. Furthermore, the practice-focused question was supported by information from peer-reviewed journals. Through questionnaires filled out by nursing staff and interviews of the nursing staff, I gathered data on the knowledge gap of the nursing staff to help better form the education program on the control and management of HTN in adults in a primary care setting. The education program aligned with the practice-focused question by helping to increase the knowledge of the nursing staff.

Sources of Evidence

A comprehensive review of the current scholarly literature provided awareness of the chronological background of the problem of poor control of HTN in a primary care setting, significance of the problem, evidence-based interventions to address the problem, and evidence-based approaches to evaluate the proposed project (Terry, 2018; Peterson et al., 2014). A literature search was performed by using the Walden library databases, including the Cumulative Index to Nursing and Allied Health Literature (CINAHL), ProQuest, Cochrane Library, PubMed, Elton Stevens Company (EBSCO), and Google Scholar.

To locate information and literature on staff education on evidence-based approaches to control and management of hypertension in adults, the following search terms were used: *hypertension, hypertension control, hypertension management, evidence-based approach to hypertension education, hypertension control education,*

staff education on hypertension, Eight Joint National Committee (JNC-8) guidelines, Eight Joint National Committee (JNC-8) applications, evidence-based approach, hypertensive patients, staff knowledge of hypertension, and *hypertension control and management guidelines.* A combination of these search terms was also used to locate relevant materials. An extensive search was conducted in these databases. The other search specifications included a review of scholarly and peer-reviewed journals published within the last 5 years. The hypertension control and management guidelines by the Eighth Joint National Committee (JNC-8) served as the basis for the educational framework of the program.

The education protocols and modules were first submitted to a panel of content experts for review and evaluation. The panel of experts was made up of the medical director, clinic manager, and clinic supervisor. The clinic's management team provided a source of evidence to be used as part of the data and information for the project. The evidence collected through questionnaires and expert reviews was used to evaluate the relationship of adequate knowledge of JNC-8 guidelines for better patient outcomes in the control and management of HTN in primary care setting. The collection and analysis of evidence provided a means for addressing the practice focus question as determined from the pre-education and post-education evaluation of the clinic staff.

Analysis and Synthesis

A Likert-type questionnaire was used to evaluate the knowledge of the nursing staff prior to and after the staff education project (Appendices A and B). The questionnaire covered such issues as patient self-management, intervention measures,

medication adherence, patient education, performance measurement, and lifestyle modifications. The collection and analysis of evidence was accomplished by: Developing the education program that includes content and delivery strategy evaluating the knowledge of the nursing staff on the evidence-based guidelines to control and manage HTN using validated questionnaire; using the outcome of the evaluation to determine the knowledge gaps and make adjustments to the program; implementing the education program using PowerPoint presentations as an E-learning tool (Appendix C), conducting post-education evaluation using a Likert scale type questionnaire; evaluating the effectiveness of the education program with the findings from expert panel and participant results; interpreting results and their applicability to the organization; and presenting results to the stakeholders at the clinic site.

IRB Protection

All participation was voluntary, and participants could withdraw from the program at any time. All data collected from participants used code names for identifiers and cross referencing and remained anonymous. Participants were given the consent for anonymous questionnaire prior to participation in the educational program. The site agreement form was signed, and Walden IRB approval obtained before the program was initiated.

Summary

The purpose of the DNP project was to use evidence from the literature review and validated questionnaires to assess the knowledge of nursing staff prior to and after receiving the staff education program. The program started by developing the educational

content based on the JNC-8 guidelines. The education module included a pre-education questionnaire, the education module, and post-education questionnaires. The knowledge of the nursing staff on HTN control and management was evaluated using the pre and post education questionnaires. The next step included evaluating the effectiveness of the education program through the findings from the questionnaires, interpreting results and their applicability to the organization. In section 4, I summarized the sources of evidence, reported the findings resulting from analysis, and presented recommendations that addressed the gap in knowledge.

Section 4: Findings and Recommendations

Introduction

My aim in developing the project was to increase the nursing staff's knowledge of how to manage patients with HTN using the JNC-8 guidelines and DASH initiatives. The project arose due to staff not implementing the use of evidence-based JNC-8 guidelines and DASH initiatives to manage patients with HTN. The guiding practice-focused question for this project was: Will staff education of evidence-based guidelines improve the knowledge of nursing staff regarding management of hypertension in primary care settings? Sources of evidence were from peer-reviewed journals using the Cumulative Index to Nursing and Allied Health Literature, ProQuest, Cochrane Library, PubMed, and Elton Stevens Company. The search terms were *hypertension, hypertension control, evidence-based approach to hypertension education, staff education on hypertension, Eight Joint National Committee guidelines, hypertensive patients,* and *staff knowledge of hypertension.* Using the obtained evidence, I developed education protocols and modules. I also collected evidence by establishing pre-test and post-test questionnaires. The collection and analysis of the evidence provided a means for addressing the practice focus question as determined from the pre-education and post-education evaluation of the clinic staff. In Section 4, I discussed the findings and implications of the project. I also summarized the key points, offer recommendations, and considered the strengths and limitations of the project.

Findings and Implications

For this project, I sought to determine if nursing staff knowledge was increased after receiving an education module on JNC-8 guidelines for HTN control and management. The project location was an outpatient clinic located in the southwest United States. The project included four phases: Phase 1: evaluation of the education module by a panel consisting of the medical director, clinic manager, and clinic supervisor; Phase 2: administration of the pre-education survey; Phase 3: presentation of the education module to the nursing staff; and Phase 4: administration of the post-education survey. Section 4 discusses the project results and implications for clinical practice.

Phase 1: Panel Evaluation

I presented the education module to the three expert panelists, the medical director, clinic manager and clinic supervisor, (Appendix C). The panelists agreed that the module contained relevant information that would increase staff knowledge of the JNC-8 guidelines for the control and management of HTN. They further agreed that the module satisfied the outpatient clinic's overall educational objectives regarding the control of HTN based on the JNC-8 guidelines and that the module should be recommended for nursing staff education on the control and management HTN. Table 1 presents the results of the panel evaluation.

Table 1

Panel Evaluation and Recommendations on the Module Content (N=3)

Questions N=3	Strong Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1. The education module appropriately contains information that will increase staff knowledge of the JNC-8 guidelines for the control and management of HTN.	0	0	0	0	3(100%)
2.The education module satisfies the overall educational objectives of the clinic on the control of HTN based on the JNC-8 guidelines.	0	0	0	0	3(100%)
3.The education module deserves to be recommended for nursing staff presentations on the control and management HTN.	0	0	0	0	3(100%)

Phase 2: Pre-Education Survey

Analysis of the panel evaluation indicated that content changes were unnecessary before presenting the education module to the nursing staff. After the panel evaluation was completed nursing staff (*N*=8) were asked to answer a pre-test questionnaire, assessing knowledge on the JNC-8 guidelines on control and management of HTN. I left written

instructions for participants to complete the questionnaire anonymously and return it to the drop box in the staff lounge. The pre-test questionnaire (Appendix A) included questions about the JNC-8 guidelines (Questions 1–6); complications of HTN (Question 7); DASH initiatives and lifestyle changes (Questions 8–11); patient education and self-management (Questions 12–16); and the role of nurses as health educators, facilitators, and promoters of good health (Questions 17–19).

Evaluation of the pretest questionnaire returned from the participants revealed the following findings:

JNC-8 guidelines (Questions 1–6)

In the pre-test questionnaire (Appendix A) eight participants took part in the survey (N=8). Questionnaire results indicated that staff had insufficient knowledge of JNC-8 guidelines on SBP reading requirements for patients aged 60 years or older (*N* = 7, n=87.5%); however, one participant (N=1, n=12.5%) responded as somewhat unaware of JNC-8 guidelines. Additionally, staff displayed insufficient knowledge of JNC-8 guidelines on DBP reading requirements for patients aged 60 years and older (*N* = 7, n=87.5%); a participant (N=1, n=12.5%) indicated a somewhat unaware answer in her return.

Patients aged 18 to 59 years (N= 7, n=87.5%); and patients with diabetes (*N* = 7, n=87.5%). Only one participant (N=1, n=12.5%) responded as somewhat unaware of JNC-8 guidelines.

Complications of HTN (Question 7)

Seven nursing staff (*N* = 7, n=87.5%) displayed a knowledge gap of HTN complications, such as hypertensive heart disease, cerebrovascular disease, peripheral vascular disease, kidney nephrosclerosis, and retinal damage, while one of the eight participants (N=1, n=12.5%) returned survey as somewhat unaware of the guidelines.

DASH initiatives and lifestyle changes (Questions 8–11)

Most of the nursing staff (*N* = 7, n=87.5%) had insufficient knowledge about the JNC-8 guidelines for promoting the lifestyle modifications of smoking cessation, controlling lipids in their diet, eating healthy, and moderation of alcohol consumption. One participant (N=1, n=12.5%) responded as somewhat unaware. Additionally, staff (*N* =7, n=87.5%) had insufficient knowledge of JNC-8 guidelines for promoting the lifestyle modifications of reducing salt intake to no more than 2,400 mg a day, engaging in physical activity, and partaking in moderate-to-vigorous activities three to four days per week for an average of 40 minutes per session. But, one participant (N=1, n=12.5%) indicated as somewhat unaware of dash initiatives and lifestyle changes.

Results of the survey revealed that most of the nursing staff had insufficient knowledge of the JNC-8 guidelines for promoting patient adherence to medication (*N* = 7, n=87.5%) and of the DASH initiatives for reducing salt intake, increasing physical activity, and promoting diets rich in vegetables, fruits, low-fat dairy, and lean protein.

Patient education and self-management (Questions 12–16)

The majority of the nursing staff (*N= 7*, *n*=87.5%) did not know that HTN can be managed by nurses through patient education based on JNC-8 guidelines for HTN management with strict age specifications and blood pressure guidance for each of the

age group and associated morbidity. Only one participant (N=1, n=12.5%) response indicated somewhat unaware of JNC-8 guidelines. I also found that majority of the staff (N=7, n=87.5%,) had insufficient knowledge on educating patients about the self-management of HTN with one participant (N=1, n=12.5%) responding somewhat unaware of JNC-8 guidelines. Some members of the nursing staff did not know that setting attainable goals for patients increases their belief in the ability to attain goals, and the participants (*N* =7, n =87.5%) did not know that nursing staff can influence patient behavior by providing new resources or structures that would make performing new behaviors easier. One participant (N=1, n=12.5%) returned the survey as somewhat unaware of JNC-8 guidelines.

I also found that some nursing staff (*N* = 7, n=87.5%) were not fully aware that patients can use goal setting, self-monitoring, self-instruction, and social support resources to help control HTN. Only one participant (N=1, n=12.5%) responded as somewhat unaware of JNC-8 guidelines.

Role of nurses as health educators, facilitators, and promoters of good health (Questions 17–19)

Most of the nursing staff (*N* = 7, n=87.5%) had insufficient awareness regarding the role of nurses as promoters of healthy beliefs, behaviors, and attitudes among patients. One participant (N=1, n=12.5%) indicated somewhat unaware of JNC-8 guidelines. Nursing staff (*N* = 7, n=87.5%) had insufficient awareness about the role of nurses as educators and facilitators to help patients make lifestyle changes that prevent HTN and its complications with one participant (N=1, n=12.5%) answering somewhat unaware of

JNC-8 guidelines. I also found that some nursing staff (*N* = 7, n=87.5%) showed a knowledge gap of the evidence- based research regarding nurses' role in helping patients achieve self-management, self-efficacy, self-regulation, and access to new resources regarding the specific ages and associated co-morbidity. In the pretest education survey for questions 1-19, one nurse (N=1, n=12.5%) answered somewhat unaware. Table 2 presents the results of the pre-education survey questions using the Likert scale 1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

Phase 3: Presentation of the Education Module

Prior to presenting the PowerPoint education module, the medical director requested that I copy the PowerPoint education module (Appendix C) in 10 USB devices for the nursing staff to review for one week. Staffs were instructed to pick up the USB device from the drop box and to review the educational content. After a week, I presented the PowerPoint education module to the nursing staff during the general staff meeting. After introducing the topic of the education and the importance of using evidence-based research in practice, I initiated the education of the JNC-8 guidelines. I highlighted to the staff the differences between the JNC- 8 guidelines and that of American Heart Association as well as the American diabetic Association. During the presentation I discussed the age parameters for blood pressure readings, first line medications and when to add a second medication. Classes of antihypertensive medications used for uncontrolled HTN as well as patients with Chronic Kidney disease and Diabetes were discussed. I used the opportunity of the education to highlight the role of nurses in managing patients with HTN as well as achieving compliance

Phase 4: Post-Education Survey

After the nursing staff reviewed the education module in the USB device and listened to my PowerPoint presentation, they were asked to pick up and complete the posttest questionnaire. I instructed the participants to return the completed posttest questionnaire into the drop box. All posttest questionnaire results were anonymous. . The posttest questionnaire was identical to the pretest questionnaire except for the addition of two questions asking for participant evaluation of the education module. One of the eight participants failed to return the posttest questionnaire. to travel

The results of the post-education survey are provided in Table 3. The nursing staff showed improvement in their knowledge of the JNC-8 guidelines and DASH initiatives. None of the participants chose *completely unaware* or *somewhat unaware* for any of the 21 questions. All the participants that answered the posttest questionnaire were *completely aware* of the JNC-8 guidelines (Questions 1–6) and complications of HTN (Question 7). The participants experienced improvements in their knowledge of the JNC-8 guidelines. Table 3 shows improvement in post-education knowledge on questions 1-7 for all participants. All participants completing the posttest were *completely aware* of DASH initiatives and lifestyle changes (Questions 8–11); patient education and self-management (Questions 12–16); and role of nurses as health educators, facilitators, and promoters of good health (Questions 17– 19). Regarding the effect of the educational model in improving the knowledge base of the participants as well as the education in impacting the way they now manage patients with HTN,(question 20-21), 100% of

questionnaire indicated that the project was very useful in improving the quality of care provided to patients and increasing the knowledge base of nursing staff.

Table 2

Pre-Test Questionnaire

JNC-8 Guidelines N=8 n=%	*Answers 1*	*Answers 2*	*Answers 3*	*Answers 4*	*Answers 5*
1. Systolic Blood Pressure (SBP) reading of more than 150 mm Hg for patients who are 60 years of age and older.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
2. Diastolic Blood Pressure (SBP) reading of more than 90 mm Hg for patients who are 60 years of age and older .	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
3. Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients between ages 18 and 59.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
4.Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients between ages 18 and 59.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
5. Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients with diabetes mellitus	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=8 n=%	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
6. Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients with diabetes mellitus	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
7. Complications of HTN are hypertensive heart disease, cerebrovascular disease, peripheral vascular disease, kidney nephrosclerosis, and eyes retinal damage.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
8. JNC-8 guidelines promote lifestyle modifications such as quitting smoking, controlling lipids in diets, eating healthy, and moderation of alcohol consumption	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
9. JNC-8 guidelines promote lifestyle modifications such as reducing salt intake to no more than 2,400 mg a day, engaging in physical activity, and partaking in moderate-to-vigorous activities 3 to 4 days per week for an average of 40 minutes per session.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=8	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
10. The JNC-8 guidelines promote patient adherence to medication	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
11. The Dietary Approach to Stop Hypertension (DASH) initiatives promotes diets that are rich in vegetables, fruits, low-fat dairy and lean protein, increasing physical activity; and reducing salt intake.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
12.HTN can be managed by nurses through patient education based on JNC-8 guideline of HTN management.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
13.Patient education on self-management of HTN will assist in being able to self-manage their health condition.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=8	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
. 14.Setting attainable goals for the patients will increase patients' belief in their abilities to attain set goals	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
15.The nursing staff can influence patient behavior by providing new resources or structures that would make performing new behaviors easier	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
16.Patients can use goal setting, self-monitoring, self-instruction, and enlisting in necessary social support resources to help control HTN	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
17. Nurses can help promote healthy beliefs, behaviors, and attitudes among patients.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
18. Nurses can serve as educators and facilitators to help patients make lifestyle changes that will prevent HTN and its complications	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=8	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
. 14.Setting attainable goals for the patients will increase patients' belief in their abilities to attain set goals	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
15.The nursing staff can influence patient behavior by providing new resources or structures that would make performing new behaviors easier	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
16.Patients can use goal setting, self-monitoring, self-instruction, and enlisting in necessary social support resources to help control HTN	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
17. Nurses can help promote healthy beliefs, behaviors, and attitudes among patients.	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%
18. Nurses can serve as educators and facilitators to help patients make lifestyle changes that will prevent HTN and its complications	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=8	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
19. Nurses can help patients achieve self-management, self-efficacy, access new resources, and acquire self-regulation	N=7 n=87.5%	N=1 n=12.5%	N=0 n=0%	N=0 n=0%	N=0 n=0%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

Table 3

Post-Test Questionnaire

JNC-8 Guidelines N=7 n=%	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
. 1. Systolic Blood Pressure (SBP) reading of more than 150 mm Hg for patients who are 60 years of age and older.	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
2. Diastolic Blood Pressure (SBP) reading of more than 90 mm Hg for patients who are 60 years of age and older.	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
3. Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients between ages 18 and 59.	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
4.Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients between ages 18 and 59	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
5. Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients with diabetes mellitus	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=7	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
. 6. Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients with diabetes mellitus.	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
7. Complications of HTN are hypertensive heart disease, cerebrovascular disease, peripheral vascular disease, kidney nephrosclerosis, and eyes retinal damage.	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
8. JNC-8 guidelines promote lifestyle modifications such as quitting smoking, controlling lipids in diets, eating healthy, and moderation of alcohol consumption	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=7	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
9. JNC-8 guidelines promote lifestyle modifications such as reducing salt intake to no more than 2,400 mg a day, engaging in physical activity, and partaking in moderate-to-vigorous activities 3 to 4 days per week for an average of 40 minutes per session.	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
10. The JNC-8 guidelines promote patient adherence to medication	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
11. The Dietary Approach to Stop Hypertension (DASH) initiatives promotes diets that are rich in vegetables, fruits, low-fat dairy and lean protein, increasing physical activity; and reducing salt intake.	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
12.HTN can be managed by nurses through patient education based on JNC-8 guideline of HTN management.	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=7	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
13.Patient education on self-management of HTN will assist in being able to self-manage their health condition .	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
14.Setting attainable goals for the patients will increase patients' belief in their abilities to attain set goals	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
15.The nursing staff can influence patient behavior by providing new resources or structures that would make performing new behaviors easier	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
16.Patients can use goal setting, self-monitoring, self-instruction, and enlisting in necessary social support resources to help control of HTN	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
17. Nurses can help promote healthy beliefs, behaviors, and attitudes among patients.	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

JNC-8 Guidelines N=100% n=7	*Answer 1*	*Answer 2*	*Answer 3*	*Answer 4*	*Answer 5*
18. Nurses can serve as educators and facilitators to help patients make lifestyle changes that will prevent HTN and its complications	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
19. Nurses can help patients achieve self-management, self-efficacy, access new resources, and acquire self-regulation	*N=0 n=0%)*	N=0 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
20. The staff education received has helped increase my knowledge and awareness of the JNC-8 guideline	*N=0 n=0%)*	N=7 n=0%	N=0 n=0%	N=0 n=0%	N=7 n=100%
21.Taking the educational program has changed the way I think about the management of HTN in the primary care setting	N=0 n=0%	N=0 n=0%	N=7 n=0%	N=0 n=0%	N=7 n=100%

Note:
1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

Study Analysis

The post education test revealed increased knowledge compared with the results of the pre- education survey. The result of the tests overall, showed that the nursing staff increased their knowledge in the diagnosis and management of HTN as indicated in the JNC-8 guidelines. Posttest answers indicated that the education program has the

potential to create a positive social change for nurses related to the care of patients with HTN: the JNC-8 guidelines; complications of HTN; DASH initiatives and lifestyle changes; patient education and self-management; and the role of nurses as health educators, facilitators, and promoters of good health.

The results from post-education survey showed that the participants improved their knowledge base of JNC-8 guidelines, complications of HTN, DASH initiatives and lifestyle changes, patient education and self-management, and the role of nurses. In addition, all participants answering the posttest found the module useful in increasing their knowledge of JNC-8 guidelines and DASH initiatives.

The implications from the findings of the project helped fill knowledge gaps by instructing nursing staff on the evidence-based practice guidelines for the control and management of adults with HTN in a primary care setting. Another implication was that the use of evidence-based guidelines may help primary care clinics control and manage HTN; thereby reducing the occurrence of such long-term complications as cardiovascular and renal disease. The potential implication for positive social change was that the project helped focus on the need for primary care clinics to develop regular staff education programs on the control and management of HTN. Another positive change implication was that staff education may reduce the number of problems arising from inadequate control of HTN; thereby producing beneficial effects for the patients, families, and communities.

In summary, the evaluation of the pre- test indicated that the participants had inaccurate and insufficient knowledge of the JNC-8 guidelines before the education

module presentation. During the education module presentation, the nursing staffs were provided with information on the JNC-8 guidelines for improving patient education, self-care, and control of HTN. The results of the post-education survey indicated that the education module increased the nursing staff's knowledge of HTN. The knowledge of nursing staff improved from insufficient (*completely unaware* or *somewhat unaware*) to *(completely aware*).

Strength of the Project

Strength of the project was panel approval of the content and no recommendations for improvement. The education program was provided to all of clinic staff with staff posttest answers indicating knowledge of the JNC-8 guidelines showing improvement from program pre-testing. The participants in the study comprised individuals with varying experience, education, and skills which may have had limiting effects on the results of the study. In future presentations of the project it would be useful to obtain demographic data. The willingness of the team to voluntarily participate in the advancement of their practice experience and to learn new knowledge of current guidelines is an important strength of the study.

Limitations of the Project

The inability to follow up with the nursing staff after education presents a limitation toward the determination of the long-term impact of the staff education. Another limitation of this project is that participation was limited to one primary care clinic and small sample size. The small sample size limits the results being generalized to other settings. Despite the small sample size, the main purpose was filling the

knowledge gap of the nursing staff in the clinic; which the small sample size did not hinder.

Recommendations

The education module was created in response to the knowledge gap observed among the nursing staff of the primary care clinic. A panel of experts deemed the education module, which was based on the JNC-8 guidelines and DASH lifestyle modifications for HTN management, to be adequate for teaching staff. The evaluators also indicated that the education module can increase staff knowledge on HTN lifestyle modifications, which in turn can improve the lives of patients by encouraging them to live healthier lifestyles that bring about improved health outcomes. It is thus, recommended positive actions be undertaken by the management of the clinic to initiate clinical policies that would include continuing nursing staff education on patient HTN control and management using JNC-8 guidelines and DASH initiatives. A clinical policy that assures continuing education will ensure that new employees improve their knowledge base on the JNC-8 guidelines. It also recommended that the clinic apply practice guidelines that are based on the JNC-8 guidelines for patient control and management of HTN. Clinic management may encourage future DNP research projects to provide nursing staff with current clinical evidence to guide practice. These recommendations would help address the gap-in practice on the control and management of HTN; as well as patient education and self-management in the clinic.

Summary

This project has demonstrated that the education module provided knowledge on current evidence-based guidelines to improve staff knowledge on the control and management of HTN. Project results are supported by panelists recommendations and the pre- and post-education survey results. Section 5 discusses my role as project leader and DNP student.

Section 5: Dissemination Plan

Introduction

The results of the DNP project are positive regarding the education for staff nurses on the JNC-8 guidelines and management of HTN. Project dissemination is an important part of my role as a DNP student. Primary care clinics in the local area may benefit from the dissemination of the educational project through staff in-services and on-job-training on the JNC-8 guidelines. Publication of the project is a future goal after graduation.

Analysis of Self

The DNP journey has helped me with knowledge acquisition and the developments of library search skills. During the literature review, I researched how to effectively educate nursing staff who lack the knowledge of the JNC-8 guidelines; and on how to teach staff to work with patients to become self-managing and self-controlling of HTN. These skills are part of the DNP learning process defined in The *Essentials of Doctoral Education for Advanced Nursing Practice* (American Association of Colleges of Nursing, 2006).

After graduation, I plan to work with the clinic staff to disseminate knowledge on current evidence-based practice guidelines related to primary care. My role in consulting with the clinic staff will be the development of training materials, including the staff education module and implementation of patient education on management of hypertension.

It is a challenge to find time to educate nursing staff in this busy primary clinic. . After graduation, I will need to focus on ways to provide ongoing staff education opportunities.

Summary

I investigated the effectiveness of improving the knowledge of nursing staff on the JNC-8 guidelines as a tool for managing HTN in adults in primary care settings. Before initiating the educational program, the knowledge of the nursing staff on the JNC-8 guidelines was insufficient. My goal for performing the project was to control and manage HTN by using the JNC-8 guidelines and been able to educate nursing staff; and, been able to disseminate the findings in peer-reviewed journals. I was able to accomplish the first task through the creation of an education module and its presentation to the nursing staff of a primary care clinic in Southwest United States. After the educational program, the nursing staff had the knowledge base and understood the importance of adhering to the JNC-8 guidelines. The results indicate the need for an ongoing educational program that allows nursing staff update their knowledge on evidence-based guidelines for controlling and managing HTN in adults in primary care setting. The implementation of the education module provided the nursing staff with improvements in their knowledge of JNC-8 guidelines; which also had the potential for transferring knowledge on self-management and self-controlling of HTN in adults in primary care setting.

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Appendix A: Pre-Test Questionnaire

Please read each of the following statements and check the appropriate box that corresponds to your current level of knowledge and attitudes about hypertension.
Please use the following scale for your responses: 1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

	1	2	3	4	5
JNC-8 guidelines diagnose hypertension by a Systolic Blood Pressure (SBP) reading of more than 150 mm Hg for patients who are 60 years of age and older.					
JNC-8 guidelines, the diagnoses of hypertension by a Diastolic Blood Pressure (SBP) reading of more than 90 mm Hg for patients who are 60 years of age and older.					
The JNC-8 guidelines diagnose hypertension by a Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients between ages 18 and 59.					
The JNC-8 guidelines diagnose hypertension by a Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients between ages 18 and 59.					
The JNC-8 guidelines diagnose hypertension by a Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients with diabetes mellitus.					
The JNC-8 guidelines diagnose hypertension by a Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients with diabetes mellitus.					
Complications of HTN are hypertensive heart disease, cerebrovascular disease, peripheral vascular disease, kidney nephrosclerosis, and eyes retinal damage.					
JNC-8 guidelines promote lifestyle modifications such as quitting smoking, controlling lipids in diets, eating healthy, and moderation of alcohol consumption.					
JNC-8 guidelines promote lifestyle modifications such as reducing salt intake to no more than 2,400 mg a day, engaging in physical activity, and partaking in moderate-to-vigorous activities 3 to 4 days per week for an average of 40 minutes per session.					
The JNC-8 guidelines promote patient adherence to medication					
The Dietary Approach to Stop Hypertension (DASH) initiatives promotes diets that are rich in vegetables, fruits, low-fat dairy and lean protein. ; increasing physical activity; and reducing salt intake.					
HTN can be managed by nurses through patient education based on JNC-8 guideline of HTN management.					
Patient education on self-management of HTN will assist in being able to self-manage their health condition.					
Setting attainable goals for the patients will increase patients' belief in their abilities to attain set goals.					
The nursing staff can influence patient behavior by providing new resources or structures that would make performing new behaviors easier.					
Patients can use goal setting, self-monitoring, self-instruction, and enlisting in necessary social support resources to help control of HTN.					

Appendix B: Post Test Questionnaire

Please read each of the following statements and check the appropriate box that corresponds to your current level of knowledge and attitudes about hypertension.
Please use the following scale for your responses: 1=completely unaware, 2= Somewhat Unaware, 3=Neither Aware Nor Unaware, 4=Somewhat Aware, 5= Completely Aware.

	1	2	3	4	5
JNC-8 guidelines diagnose hypertension by a Systolic Blood Pressure (SBP) reading of more than 150 mm Hg for patients who are 60 years of age and older.					
JNC-8 guidelines, the diagnoses of hypertension by a Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients who are 60 years of age and older.					
The JNC-8 guidelines diagnose hypertension by a Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients between ages 18 and 59.					
The JNC-8 guidelines diagnose hypertension by a Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients between ages 18 and 59.					
The JNC-8 guidelines diagnose hypertension by a Systolic Blood Pressure (SBP) reading of more than 140 mm Hg for patients with diabetes mellitus.					
The JNC-8 guidelines diagnose hypertension by a Diastolic Blood Pressure (DBP) reading of more than 90 mm Hg for patients with diabetes mellitus.					
Complications of HTN are hypertensive heart disease, cerebrovascular disease, peripheral vascular disease, kidney nephrosclerosis, and eyes retinal damage.					
JNC-8 guidelines promote lifestyle modifications such as quitting smoking, controlling lipids in diets, eating healthy, and moderation of alcohol consumption.					
JNC-8 guidelines promote lifestyle modifications such as reducing salt intake to no more than 2,400 mg a day, engaging in physical activity, and partaking in moderate-to-vigorous activities 3 to 4 days per week for an average of 40 minutes per session.					
The JNC-8 guidelines promote patient adherence to medication.					
The Dietary Approach to Stop Hypertension (DASH) initiatives promotes diets that are rich in vegetables, fruits, low-fat dairy and lean protein; increasing physical activity; and reducing salt intake.					
HTN can be managed by nurses through patient education based on JNC-8 guideline of HTN management.					
Patient education on self-management of HTN will assist in being able to self-manage their health condition.					
Setting attainable goals for the patients will increase patients' belief in their abilities to attain set goals.					
The nursing staff can influence patient behavior by providing new resources or structures that would make performing new behaviors easier.					
Patients can use goal setting, self-monitoring, self-instruction, and enlisting in necessary social support resources to help control of HTN.					
Nurses can help promote healthy beliefs, behaviors, and attitudes among patients.					
Nurses can serve as educators and facilitators to help patients make lifestyle changes that will prevent HTN and its complications.					
Nurses can help patients achieve self-management, self-efficacy, access new resources, and acquire self-regulation.					
The staff educational module has helped to increase my knowledge and awareness of JNC-8 HTN management.					
Taking the educational program has changed the way I think about the management of HTN in primary care setting.					

Appendix B: Education module PowerPoint Presentation

OBAZE
DORIS-EDUCATION M