HOLISTIC BLOOD PRESSURE MANAGEMENT PLAN IN PRIMARY CARE

by

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As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Marilyn L. King, titled Holistic Blood Pressure Management Plan in Primary Care and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.

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DEDICATION

I dedicate this DNP project to my mother, Estela King, and my best friend, Braulio Andres. They taught me that I could accomplish my dreams through hard work, passion, and perseverance. Their unconditional love and support gave me the necessary strength to remain steadfast on this journey.

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ABSTRACT

Purpose: The purpose of this Doctor of Nursing (DNP) quality improvement (QI) project was to demonstrate the usefulness of implementing a bilingual educational module for patients with hypertension on improving knowledge, self-efficacy, and self-management at Kids Kare Pediatrics and Family Kare Clinic.

Background: Uncontrolled hypertension (HTN) is one of the leading causes of death and disability worldwide. Approximately half of individuals diagnosed with HTN achieve adequate blood pressure (BP) control, with a little over a third reporting proper medication adherence. While African Americans are more prone to developing cardiovascular-related complications and premature death, Hispanic Americans, such as Mexican Americans, have higher rates of uncontrolled BP and are disproportionately affected by diabetes mellitus and chronic kidney disease (CKD). Healthcare providers must consider the interconnectedness between mental and social factors, chronic disease, and holistic management. Providing patients with a holistic educational pamphlet in English and Spanish is a quick, inexpensive way of delivering health information on HTN disease management to different populations.

Methods: The project design was descriptive quantitative and included the use of a validated tool, the *Self-Efficacy for Managing Chronic Disease* (SEMCD) 6-item scale to assess pre and posttest self-efficacy. The posttest also inquired about age, enhanced knowledge, perceived usefulness, and if participants would recommend the pamphlet to their friends and family. The *Model for Improvement* guided the implementation and evaluation of the holistic educational pamphlet. The project director delivered the pretest, the educational intervention, and then the posttest face-to-face in the clinic.

Results: Of the nineteen participants, eleven were Spanish-speaking and eight were English-speaking. Individuals who participated in this QI project had a history of HTN, prediabetes or diabetes mellitus, dyslipidemia, anxiety, and/or depression. All of the participants reported increased knowledge and increased self-efficacy in certain domains. All of the participants indicated they found the pamphlet useful and would recommend it.

C**onclusions:** A holistic, evidence-based educational intervention was effective in increasing hypertension knowledge and self-efficacy in self-management at a primary care clinic. Quality improvement projects (QI) such as these can increase the application of evidence-based interventions for different races and ethnicities, chronic diseases, and practice settings.

INTRODUCTION

A bilingual, holistic blood pressure action plan designed to increase hypertension knowledge, enhance self-efficacy, and improve perception of environmental stress can potentially improve blood pressure control in hypertensive adult patients at Kids Kare Pediatrics and Family Kare Clinic in Phoenix, Arizona. There is a vast amount of information in the literature written about hypertension management, and yet many individuals struggle with managing their blood pressure (Johnson et al., 2016). Healthcare providers often address the pharmacological and lifestyle aspects of disease management but do not adequately assess the psychological and emotional factors affecting blood pressure. (Ledigo-Quigley et al., 2015). Hypertension disease management has become challenging for many patients due to a variety of factors, such as environmental stressors, comorbidities, knowledge deficit, language and/or cultural barriers, and reduced self-efficacy. (Ledigo-Quigley et al., 2015). A bilingual, holistic educational intervention in the primary care setting was developed to address several of the barriers associated with poor blood pressure management, focusing on deficient knowledge and low self-efficacy.

Background Knowledge and Significance

Uncontrolled hypertension (HTN) is one of the leading causes of morbidity and mortality worldwide. In 2015, nearly 20% of deaths and 9% of disabilities were due to HTN (Campbell et al., 2017). It has also been reported that 35% of individuals with HTN do not take their medication, and about 50% have poorly controlled HTN (Hong et al., 2018). In the United States (US), racial and ethnic minorities have the most difficulty managing their HTN, compared to non-Hispanic whites (NHW) (Ferdinand & Nasser, 2017). The etiology for each racial and ethnic

minority group may differ, but essentially, each group faces some type of adversity or barrier to BP management, which will be discussed more in detail below.

Hypertension Defined

Hypertension (HTN) is arterial blood pressure that is persistently elevated (Saseen & MacLaughlin, 2017). It is one of the most significant risk factors for cardiovascular disease. Cardiovascular events that can result from uncontrolled HTN include myocardial infarction, stroke, and renal failure. According to the most recent American Heart Association (AHA) guideline from 2017, the parameters for hypertension are the following: Stage 1 Hypertension – a systolic BP between 130-139 mm Hg or a diastolic BP between 80-89 mm Hg; Stage 2 – a systolic BP greater than or equal to 140 mm Hg or a diastolic BP greater than or equal to 90 mm Hg (Whelton et al., 2017). Most patients have essential or primary hypertension, which results from an unknown etiology. Various pathways contribute to the development of HTN, with genetics playing a vital role in sodium balance, as well as other mechanisms affecting BP (Saseen & MacLaughlin, 2017).

Demographics and Distribution in Population

Approximately 20% of young adults (18-39-year-olds) have a diagnosis of HTN in the US. (Johnson et al., 2017). Research shows that 36% of young adults report adequate blood pressure control (BP) compared to their middle-aged (40-59-year-olds) (58%) and older-aged (> 60-year-olds) (54%) counterparts (Johnson et al., 2017). While the risk for HTN is similar among men and women between the ages of 55-64, men tend to have a higher BP before the age of 55. This changes later in life as women are more prone to developing HTN after the age of 64.

According to Morris and Channer (2012), there is a link between sex hormones and coronary artery disease (CAD). There is a growing amount of literature that suggests men with CAD have notably low testosterone levels (both total and bioavailable testosterone) (Morris & Channer, 2012). A positive correlation was found between testosterone and HDL cholesterol, whereas a negative association was found between testosterone and LDL cholesterol and triglycerides (Morris & Channer, 2012). Men's lipid profile tends to be more pro-atherogenic by nature. In women, normal physiologic levels of estrogen have been linked to cardioprotective effects (Morris & Channer, 2012). This effect diminishes with conditions associated with estrogen deficiency, such as menopause or bilateral oophorectomy. Other risk factors for HTN include diabetes (type 1 or 2), dyslipidemia, albuminemia, family history of cardiovascular disease, overweight or obesity, physical inactivity, and tobacco use in both genders (Saseen & MacLaughlin, 2017).

Another population significantly impacted by HTN includes individuals with severe mental illness (SMI). Many of the antipsychotic medications used to treat different mental illnesses increase the risk for cardiovascular disease (CVD). This elevated risk occurs as a result of obesity, dyslipidemia, and HTN induced by the antipsychotic medications (Mangurian et al., 2016).

Prevalence

In the US, racial and ethnic minorities are disproportionately burdened by cardiovascular disease-related deaths and disabilities (Edelman, 2008). Disease prevalence rates are not only higher in African Americans, but hypertensive disease tends to be more severe as well. Consequently, African Americans have a higher risk of developing HTN-related organ damage

and health complications such as myocardial infarction, stroke, and chronic kidney disease (CKD) (Williams et al., 2016). African Americans also have a higher rate of comorbidities such as CKD, diabetes mellitus (DM), a more elevated BP at baseline, and minimal physical activity.

The prevalence of HTN in the Hispanic community is quite variable and is based on the country of origin. Recent data from the Hispanic Community Health Study/Study of Latinos showed an overall HTN prevalence of 25% among Hispanics (Rodriguez & Ferdinand, 2015). There is much heterogeneity amongst the Hispanic population with HTN rates being highest in Puerto Ricans and Dominicans and lowest in Mexican Americans and Cubans. Despite having lower rates of HTN, Hispanics in the US have higher rates of uncontrolled BP and are disproportionately affected by diabetes and CKD. According to Zullig et al. (2017), 23% of Hispanics are disproportionately impacted by diabetes and uncontrolled HTN, compared to 11% in NHW.

Depression also tends to be more common in individuals with chronic health conditions such as hypertension. A recent meta-analysis found that 26.8% of hypertensive patients had a comorbidity of depression (Li et al., 2015).

Problems and Barriers to Control

Having a chronic condition can cause significant distress. Many individuals have trouble coming to terms with the change in their health. Psychological issues can manifest in the form of denial and can affect any age group. Many young adults (18-39) who are diagnosed with HTN feel that their ‘young’ identity is threatened with a ‘sick’ one, which results in a type of identity crisis (Johnson et al., 2016). Recommended behavior changes and antihypertensive regimen can

make young adults feel ‘older’ than their peers, which can result in treatment noncompliance (Johnson et al., 2016).

Hispanics tend to have more comorbidities than Caucasians and are less likely to receive treatment for those comorbidities. A recent study found that Hispanics have the lowest rates of blood pressure treatment (58.6%) compared to non-Hispanic whites (NHW) (71.2%) and African Americans (71.9%) (Kendrick et al., 2015). Underlying renal disorders can also play a key role in inadequate BP management. Latinos are more likely to experience significant CKD-related complications as a result of not taking an angiotensin-converting enzyme inhibitor (ACE-I) to help control their HTN. Another factor impacting blood pressure management in this population is access to health insurance. Access to healthcare has been correlated with effective blood pressure control (Bennet et al., 2016). Ultimately, racial and ethnic minorities experience more difficulty controlling their blood pressure regardless of treatment (Kendrick et al., 2015).

Individuals of lower socioeconomic classes may potentially be labelled ‘non-complaint’ with the plan of care (Zullig et al., 2017). There are many variables influencing the ability to care out the plan of care, such as access to healthcare, ability to afford medications, and access to nutritious food. A retrospective study conducted by Zullig et al. (2017) found that low-income racial-ethnic minorities and clinically complex patients experience significantly lower reductions in SBP compared to Caucasians and individuals of other socioeconomic classes. More specifically, they found the smallest reduction in Hispanic women, many of whom, were uninsured.

A longitudinal study conducted in the southwest found that socioeconomic level, race/ethnicity, and neighborhood deprivation (e.g., segregation, environmental exposures,

violence/safety, lack of social cohesion) were associated with significant blood pressure changes and higher risk for developing HTN over a 9-year period. (Claudel et al., 2018). Many African Americans live in low-income neighborhoods, thereby increasing their risk for food insecurity (Fowler & Giger, 2017). These individuals may not follow dietary recommendations due to economic constraints (i.e., cannot afford fresh fruits and vegetables, fresh lean meats, healthy nuts, & low-fat dairy products). These types of living conditions can be stressful.

Underlying psychological issues can also play a significant role in uncontrolled HTN. African American women have a higher risk of emotional eating, altered emotional coping/coping strategies, and developing depressive disorders (Fowler & Giger, 2017). Based on the results gleaned from the retrospective study mentioned earlier, Hispanic women also experience difficulty managing their blood pressure. However, the authors did not discuss underlying psychological disorders, such as depression and emotional eating as potential causes for uncontrolled HTN. Diet and cultural norms are also influential in the disease process.

Uncontrolled HTN not only increases the risk for health-related sequelae but is also costly in terms of significant morbidity and societal cost (Makai et al., 2017). Nationally, it has been estimated that nearly 1,000,000 Americans die each year from cardiovascular disease (Arizona Department of Health Services [AzDHS], 2010). Appropriate chronic disease management for hypertensive patients and HTN screening for individuals at risk for HTN are integral in reducing health complications and improving quality of life.

Young adults frequently miss follow up blood pressure visits because of co-payments, lack of transportation, and extended office wait time (Johnson et al., 2016). While going to follow up appointments is imperative to successful disease detection and management, patients

must have the tools they need to appropriately identify pertinent risk factors and effectively manage their condition. A recent analysis revealed that young African American adults showed limited knowledge of the risks of developing HTN, reinforcing the need for educational interventions for this particular population (Johnson et al., 2017).

Evidence-Based Practice

Evidence-based guidelines for HTN management are available from the AHA (Whelton et al., 2017). The guidelines are based on blood pressure category (i.e., normal, elevated, stage 1, & stage 2), the 10-year risk for heart disease, and comorbidities to help determine appropriate treatment and follow-up recommendations to reduce the number of complications associated with hypertension and cardiovascular disease (Whelton et al., 2017). The Healthy People 2010 initiative was established to reduce the number of deaths due to cardiovascular disease (AzDHS, 2010). Essentially, the goal is to reduce mortality rates from heart disease to less than 166 deaths per 100,000 population, and the goal for stroke-related deaths is to reduce the number of deaths to less than 48 deaths per 100,000 population (AzDHS, 2010).

There are various disease screening and management interventions designed to assist with the primary and secondary prevention of CVD. Current strategies include non-pharmacologic measures such as dietary and lifestyle changes, pharmacologic interventions, and routine medical assessment of health condition and risk factors. While these strategies should ideally improve HTN screening and disease management, this approach does not consider the 'whole' person. Healthcare providers must consider the interconnectedness between mental and social factors, chronic disease, and treating patients holistically. A multipronged approach that

effectively addresses patient, provider, and healthcare system barriers is desirable in achieving BP control (Zullig et al., 2017).

The literature shows a need for health education interventions that are accessible to populations such as racial/ethnic minorities and low-income groups, as they are at risk for significant health disparities (Zullig et al., 2017). Providing patients with an educational pamphlet or brochure is a quick, easy, and inexpensive way to deliver health information to all patients. Patients can learn about the risk factors for HTN, how to develop effective HTN management strategies, and help build self-efficacy and a support system to improve their health and reduce the risk of health complications. Research shows that social support can facilitate compliance or adherence to a specific treatment regimen, especially in the context of chronic condition management (Osamor, 2015).

A study conducted by Bosworth et al. (2008) found that hypertensive adults were responsive to a nurse-led telephonic, behavioral intervention created to promote medication adherence in adults. Most of the individuals who participated in the study were African American. This study demonstrated that medication adherence increased by 9% in the intervention group, compared to a 1% increase in the control group. While the holistic blood pressure action plan would not involve phone calls per se, this educational intervention will encourage patients to monitor their BP more closely and contact their healthcare provider or nurse line with any specific concerns about their BP, especially if there have been recent medication changes.

Another study showed that high medication adherence might not necessarily be correlated with BP control. A correlational study conducted by Breauz-Shropshire and

colleagues (2012) revealed that a significant number of participants with poorly controlled HTN reported high medication adherence. Patients must learn that effective chronic disease management involves more than taking medications. Frequent fluctuations in BP have been associated with one's perception of environmental stress, which can influence one's quality of life (Sung et al., 2014). A holistic educational intervention enables patients to learn more about their condition, when to seek medical care, how to develop a support system, and help them build self-efficacy to manage their health more confidently.

Local Problem

Phoenix is a major US city and is the largest city of Arizona, with a population of 1.66 million (Data USA, 2020). There is a 20.9% poverty rate in Phoenix, with the highest incidence of poverty in Caucasians, followed by Hispanics and then "Other" races (Data USA, 2020, p.8). Approximately 86.9% of the population in Phoenix has healthcare coverage. Of that percentage, 44.2% have employee plans, 23.9% are on Medicaid, 7.94% are on Medicare, 9.75% are on non-group plans, and 1.09% are on military or VA plans. 13.1% are uninsured.

Phoenix is very globally diverse. The most common country of origin is Mexico, with approximately 529,069 people, followed by Canada, with roughly 42,736 people, and then India, with an estimated 38,953 individuals. The most common non-English speakers in Phoenix are Spanish speakers (31.5%). Lastly, with regard to culture and educational attainment in Phoenix, most college degrees are awarded to Caucasians, followed by Latinos, and then African Americans.

An informal community needs assessment was conducted by the project director (PD), who works for a health consultant company specializing in population health. The needs

assessment revealed that hypertensive individuals, residing in Maricopa County, Arizona, have trouble managing their BP, as evidenced by frequent calls to a health consultant triage nurse line with questions about blood pressure management. This needs assessment was conducted from August 2016 – January 2020. Individuals who called the nurse line often asked what BP reading is considered 'too high,' 'can I take another blood pressure pill', and 'when should I go to the hospital?' Many individuals reported that their primary care providers (PCPs) did not have enough time to incorporate adequate patient education, they felt 'rushed,' and they did not want to 'bother' their PCP with 'too many' questions. These individuals indicated they did not have a plan to manage their blood pressure, they did not know what do if they become symptomatic or if their blood pressure was too high, nor did they feel properly educated on the topic. In particular, there were concerns regarding what to do in the event their BP was too elevated.

Hypertension is very problematic in Arizona because almost half of Arizonans have this chronic condition (AzDHS, 2010). Approximately 27% of Arizona adults have been diagnosed with HTN, and 21% of Arizonans are unaware that they have HTN (AzDHS, 2010). With nearly one-fifth of Arizonans unaware that they have HTN, or possess certain HTN-related risk factors, they may be less inclined to seek medical attention for this condition. In 2007, HTN cost the Arizona Health Care Cost Containment System $140 million (AzDHS, 2010). As mentioned previously, HTN puts one at risk for cardiovascular-related complications. Not only is cardiovascular disease the leading cause of death in the US, but it is also the leading cause of mortality in Arizona (AzDHS, 2010). In 2008, the incidence rate for deaths related to HTN was seven people per 100,000 (AzDHS, 2010). The counties with the highest rates of cardiovascular disease include Cochise, Maricopa, Mohave, Greenlee, Navajo, and Yavapai counties (AzDHS,

2010). According to a community health report published in May 2017 by the Maricopa County Public Health Department, heart disease was the leading cause of death in 2015 and the second leading cause of death of individuals residing in Maricopa county from 2011-2014 (Goodin et al., 2017). Hypertension was considered the fourth most important health issue selected by community members in Maricopa County, with heart disease being the seventh most problematic health concern for individuals of African American, American Indian, Asian American, and Hispanic descent (Goodin et al., 2017).

Intended Improvement

This quality improvement project was conducted at Kids Kare and Family Kare Clinic in Phoenix, Arizona. Kids Kare and Family Kare Clinic was selected because they serve many vulnerable populations. More specifically, the clinic serves a large, low-income Hispanic population, primarily Spanish speaking, which could potentially benefit from an educational intervention available in Spanish. Additional factors for site selection include the number of patients with hypertension and comorbidities, such as obesity, diabetes, dyslipidemia, renal disease, and anxiety and/or depression. Many of the patients are underinsured or uninsured.

Project Purpose

The purpose of this quality improvement (QI) project is to demonstrate the usefulness of implementing a bilingual educational module for patients with HTN on improving HTN knowledge, self-efficacy, and self-management at Kids Kare Pediatrics and Family Kare Clinic in Phoenix, Arizona.

Project Question

At Kids Kare and Family Kare Clinic, does a bilingual educational intervention for patients with a diagnosis of hypertension about hypertension and using a holistic blood pressure action plan (HBPAP) improve their knowledge and their self-efficacy about adopting a hypertension management plan?

Project Objectives

Aim 1: Increase knowledge about HTN in patients diagnosed with HTN at Kids Kare and Family Kare Clinic.

Aim 2: Increase patients' self-efficacy about adopting a hypertension management plan.

Patients often forget BP and healthy living recommendations made by their primary care provider. Hypertensive adult patients at Kids Kare and Family Kare Clinic would benefit from an educational pamphlet containing evidence-based information on hypertension to refer to when needed, especially in the event they are unable to discuss their concerns with their primary care provider in a timely manner. Making the pamphlet available in English and Spanish will increase the likelihood the information will be understood, and possibly incorporated, into their plan of care.

Theoretical Framework

Health Belief Model (HBM)

The chosen theoretical framework was the Health Belief Model (HBM) because it integrates the social determinants of health with the concepts of chronic disease, self-efficacy, and motivation for behavior change. Fundamentally, factors such as age, sex, race/ethnicity,

socioeconomic status, education level, knowledge, and personality characteristics impact one's perception of disease susceptibility and disease severity.

Social scientists at the U.S. Public Health Service developed the HBM in an effort to better understand why people did not adopt certain disease management strategies and undergo screening tests for early detection of disease (Boston University, 2019). Later uses of this model include assessment of the way patients responded to symptoms, as well compliance of medical treatment. The HBM is a prominent theory in behavior change that allows one to determine the likelihood of an individual engaging in particular self-care behaviors such as eating healthy (e.g., low salt, low fat diet, increasing fruit, & vegetable intake), exercising regularly, and maintaining a healthy weight (Javadzade et al., 2018).

The HBM consists of four elements: perception, severity, benefits, and perceived barriers.

Perception

Perception of vulnerability or susceptibility is one's subjective risk assessment of contracting a disease. If an individual is unaware of their own risk factors for developing a particular disease, they may be more likely to develop a certain disease. The HBPAP is an educational intervention designed to help patients have a better understanding of their risk factors and when it is appropriate to seek medical care.

Severity

Severity is one's belief of the seriousness and consequences associated with a disease. An individual may be cognizant of having a particular disease but may not understand the disease process and potential risk for health complications with increasing severity. Moreover, they may

not take the treatment regimen seriously because they may not understand the severity of the disease. A more diligent effort can be made to prevent the progression of the disease process when patients are knowledgeable about the disease and are motivated in their plan of care.

Benefits

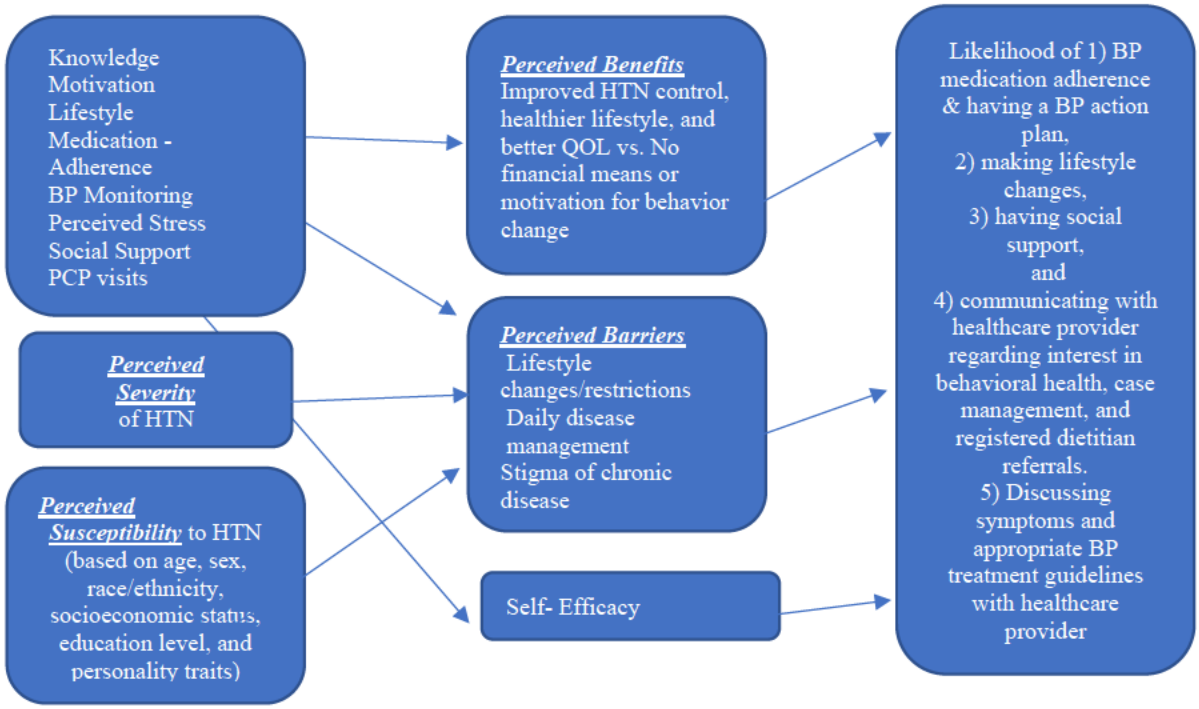
Benefits refers to one's belief that changing one's actions or behaviors will elicit positive health benefits or results. Self-efficacy is an integral component of behavior change. The desire to change one's behavior or actions is influenced by one's level of knowledge, motivation, and perceived benefits of engaging in certain behaviors. The HBPAP will provide pertinent health education and a list of social support groups to promote holistic patient care.

Perceived Barriers

Perceived barriers are factors that prevent one from carrying out the recommended treatment (Barros et al., 2014). One may not have access to health insurance, or may be underinsured, and therefore, unable to afford certain medications or nutritious food. The HBPAP will encourage patients to reach out to the provider regarding a social service referral (Figure 1).

Figure 1

Application of Health Belief Model to Quality Improvement Project



Health Belief Model. This figure depicts the interactions between health beliefs, the social determinants of health, and disease management components.

Individuals with hypertension are unique in their adoption of lifestyle choices that are consistent with their beliefs, perceptions, and knowledge (Barros et al., 2014). Self-care practices dictate how one will manage their disease (Ma, 2017). Disease management requires more than lifestyle changes and medication adherence. Self-management involves having the motivation and understanding of one's condition in order to effectively manage it. Self-care behaviors include medication adherence and lifestyle modifications such as low sodium, low cholesterol diet, regular physical activity, reduced alcohol consumption, smoking cessation, weight management, self-monitoring of BP, stress control, having adequate social support, and going to healthcare provider visits as needed (Ma, 2017). Ultimately, engaging in positive self-care

behaviors may reduce the risk of complications, thereby increasing longevity and potentially enhancing one’s quality of life.

Educational interventions that use health education models or theoretical frameworks, such as the HBM, can effectively promote behavior change in populations at risk, like those with decreased fruit and vegetable consumption (Mohammad et al., 2016). People may be unfamiliar with current dietary recommendations or may need food preparation ideas to make healthier meals that are more appetizing. Adequate consumption of fruits and vegetables can significantly reduce blood pressure, while increased fruit and vegetable consumption has been shown to substantially reduce the risk of cardiovascular disease and myocardial infarction (Mohammad et al., 2016).

A recent qualitative study that looked at health knowledge, attitudes, and beliefs in hypertensive African American men in the southeastern US found that participants reported an extensive understanding of HTN with regard to disease severity but experienced significant self-management barriers. More specifically, they mentioned medication and dietary adherence issues due to medication side effects as well as a desire to consume unhealthy foods (Long et al., 2017). Despite knowledge of disease severity, motivation is vital in behavioral modification.

Culture, dietary practices, and socialization are closely intertwined and can impact one's motivation or desire to change certain behaviors. Individuals may feel like they do not 'fit in' with their family and peers if they do not engage in specific health and behavioral practices. This could also be the case with younger hypertensive adults who feel they are ‘too young’ to be managing a chronic condition. Perceived facilitators include social and familial support, as well as positive healthcare encounters (Long et al., 2017).

A recent study that examined antihypertensive drug non-compliance found that the HBM could be used to predict treatment compliance in patients with HTN (Obirikorang et al., 2018). They found that sociodemographic factors such as low educational level, certain types of employment (i.e., government, private), and low income were significantly correlated with BP drug noncompliance (Obirikorang et al., 2018). If hypertensive individuals are cognizant of their risk factors, disease severity, and are motivated to make behavioral and lifestyle changes, they are more likely to experience positive health outcomes and improved quality of life related to those changes. Theoretically, this should be the case, but even motivated individuals can experience barriers, especially when socioeconomic factors play a role.

While patients may be motivated to manage their chronic condition, individual-and-systemic obstacles can interfere with treatment (Hing et al., 2019). This is why it is essential to integrate behavioral health, case management, social service, and dietary referrals. If patients know those types of interdisciplinary resources are available, they may be more inclined to utilize them. Ultimately, a holistic health education intervention can benefit the physical and psychological wellbeing of hypertensive patients, and patients at risk for HTN, in primary care.

Literature Synthesis

Evidence Search

A literature search was conducted in CINAHL and PubMed for review of current studies and articles on health education and hypertension disease management in racial/ethnic minorities. Various combinations of keywords were used to maximize the yield on existing studies and articles (within reason). The following filters were added: English, full text, and published within the last five years. Entering the following search terms on CINAHL produced

twenty articles: “hypertension or high blood pressure,” “disease management or self-management,” and “racial ethnic minorities.” In PubMed, the MeSH search terms “disease management,” “hypertension,” and “racial ethnic minorities” yielded 100 articles. An additional 55 articles populated after removing the five-year filter. Many of the articles available on PubMed were duplicated on CINAHL. Ultimately, only two articles were obtained from CINAHL and the rest were found on PubMed (15 articles on PubMed). A total of 17 articles from all of the searches will be used for this quality improvement project (Appendix G).

The remaining articles were not selected because the intervention and/or disease processes were not pertinent to the study question. Studies were excluded based on lack of relevance or feasibility for implementation in the primary care setting. Another reason for exclusion was that the chronic disease being studied was not relevant to the study- that is, not HTN, CKD, diabetes, hyperlipidemia, obesity, and/or a mental health disorder (i.e., depression, anxiety).

Comprehensive Appraisal of Evidence

Social Determinants of Health and Chronic Disease Health Outcomes

Social determinants of health (SDoH) are environmental conditions in which individuals are “born, live, learn, work, play, worship, and age,” which can influence one’s health risks, health functioning, and quality of life (QOL) (Healthypeople.gov, 2020, para 5). Social, economic, and physical conditions in different environments and settings, such as school, church, workplace, and one’s neighborhood, can interact in such a way that it affects one’s social engagement, sense of safety, and overall wellbeing (Healthypeople.gov, 2020). Blood pressure (BP) control is multifactorial and requires a tailored approach depending on age group,

race/ethnicity, culture, geographical location, and socioeconomic level. In order to effectively manage chronic conditions, such as HTN, it is important to understand how these interconnected variables impact disease management, so that interventions can be developed that address the various factors impacting BP control.

Race/Ethnicity, Culture, and Religious/Spiritual Beliefs

Fowler (2015) refers to African American women as a "ticking time bomb" (p. 42). Not only because hypertension (HTN) can be a "silent killer" but also because of the prevalence of obesity in the African American community, particularly in African American women. Obesity is correlated with a higher incidence of chronic disease such as HTN, stroke, type 2 diabetes mellitus (T2DM), and certain forms of cancer in African American women, compared to their Caucasian counterparts (Fowler, 2015). Furthermore, this population tends to have higher hospitalization costs, reduced work productivity, lost wages, more frequent medical and pharmacy associated assistance, and they tend to spend more time away from their families than Caucasian women.

Additional contributing factors impacting health management in this particular population is the socio-cultural context of eating, the general acceptance of African American being overweight or obese, high prevalence of emotional eating, and a preference for unhealthy foods. African American women are more prone to developing metabolic syndromes and cardiovascular complications resulting from the interrelated SDoH. These factors include poverty, neighborhood location, health literacy level, the presence of "food deserts," an excessive number of fast-food restaurants in the local vicinity, as well as physical inactivity and general advertisement that sends mixed messages about body image.

In the US, racial and ethnic minorities have the worst HTN control rates, with hypertension prevalence rates being highest in African Americans (Bennet et al., 2016; Ferdinand & Nasser, 2017). According to Bennett et al. (2016), HTN knowledge and treatment tends to be significantly higher in African Americans, compared to non-Hispanic whites (NHW). Furthermore, pharmacologic recommendations exist for this subgroup. More specifically, the research supports the use of thiazide-type diuretics and calcium channel blockers, as opposed to beta-adrenergic blockers and ACE-I/ARB use in African Americans (Ferdinand & Nasser, 2017). There are no specific treatment recommendations for Hispanics or Asians, although the Joint National Commission recommends initial treatment for HTN with a thiazide-diuretic, regardless of race.

An overall estimate of HTN prevalence in the Hispanic community is 25%, with the lowest rates in the South American women (17.2%) and the highest rates in Dominican men (34.3%) (Rodriguez & Ferdinand, 2017). While Latinos have lower rates of HTN compared to African Americans, Hispanics tend to have higher rates of diabetes with poor BP control. Hispanics are also less likely to be on an angiotensin-converting enzyme inhibitor (ACE-I). Moreover, Hispanics are more likely to be a member of a lower socioeconomic class. Research also shows that higher acculturation (English language use and increasing years in the US) rates were positively correlated with HTN and chronic kidney disease (CKD). It is difficult to ascertain to what degree acculturation is adversely impacting diet and lifestyle, and consequently the health of these individuals. A great deal of the research available on Hispanics has been largely extracted from Mexican Americans, which is not an accurate overall representation of HTN, CKD, and other cardiometabolic risk factors that exist in the Hispanic community. There

is a substantial amount of variability with respect to acculturation, health literacy, and social support in different groups of Hispanics with health conditions such as hypertension, diabetes, and metabolic syndrome (Ferdinand & Nasser, 2017; Hicks et al., 2005; Legido-Quigley et al., 2015).

A cross-sectional study conducted in the Democratic Republic of the Congo by Lulebo et al. (2017) found that poor medication adherence and risk for health-related sequelae were primarily due to the utilization of complementary and alternative medicine (CAM). CAM use was as high as 26.1% in this particular study. Of that percentage, 42.5% of participants incorporated herbal medicines in their treatment regimen, whereas 35.6% relied on prayer. There was a large misconception regarding the "curability" of the disease, which was never clarified by healthcare providers. Furthermore, the participants indicated that CAM was more cost-effective, CAM had fewer side effects than antihypertensive medications, and using CAM was part of their cultural tradition. Many of these individuals received their health information primarily from family members and friends. Some cultures believe that illness is, essentially, "punishment" for wrongdoing (Lubelo et al., 2017). Consequently, some individuals may not wish to play an active role in managing their condition because they have come to accept their fate (Lubelo et al., 2017). It is imperative to properly educate patients while maintaining a sense of cultural sensitivity. One must find that delicate balance and remain as unbiased as possible.

Barriers to Care- Income, Access to Care, Language, and Social Support

There are various obstacles that must be overcome in order to achieve optimal disease management. Many patients report struggling with hypertension management because it involves lifelong self-monitoring, as well as lifelong lifestyle and medication regimens (Bhattacharya,

2015). Interestingly, this is the case even though it is estimated that 75% of persons with uncontrolled HTN visit their PCP at least twice yearly. It was found that physicians were not as aggressive as they should have been in the treatment of HTN, resulting in uncontrolled BP (Hicks at el., 2005). This highlights the importance of proper guideline implementation by healthcare providers. If patients have the opportunity to learn guideline information, they can discuss it more in detail with their provider, particularly if there are medication class and/or dosage concerns. It is imperative primary care providers use the latest guidelines and know when to refer to a specialist (e.g., cardiologist, nephrologist, psychiatrist). In addition to proper guideline adherence on behalf of the healthcare provider, the healthcare provider must consider each patient's unique situation, which includes their age, an assessment of their socioeconomic status, health insurance/high co-pays and deductibles, transportation and/or language barriers, lack of social support, and any other social determinant of health that can potentially impact care (Divens & Chatmon, 2019; Ferdinand & Nasser, 2107; Johnson et al., 2017; Legido-Quigley et al., 2015; & Odusola et al., 2016).

Provider-Patient Interactions and Preferences Involving Hypertension/Chronic Disease Management

Other themes that emerged from the literature included PCPs expressing challenges with HTN management in younger adults, especially African Americans (Johnson et al., 2017). This was attributed to a more aggressive disease process (starting at a younger age), increased incidence of poor medication adherence, missed appointments, and psychological impact from learning they have a chronic condition at a young age. Kressin et al.'s (2019) cross-sectional study found that high medication adherence was not always correlated with adequate BP control.

Even though this could be suggestive of other factors such as inappropriate medication class or frequency, drug resistance, etc., the author proposes that primary care providers should focus on shaping or changing maladaptive health beliefs as a means of achieving proper BP control.

Additional themes identified in the literature regarding why primary care providers are not providing enough health education to patients included lack of staffing, resources, and time with patients (Odusola et al., 2016). Many providers are looking for ways to improve the delivery of healthcare, especially with regard to engaging in behaviors that will facilitate trust and compliance. An educational intervention centered on patient health beliefs that provides evidence-based health information from a healthcare provider can effectively improve how providers interact with patients; thus, facilitating trust, enhancing the delivery of care, and improving health outcomes.

Patients expressed that sometimes they felt like their healthcare providers did not have the time to listen to their concerns (Legido-Quigley et al., 2015; Strekalova et al., 2018). As a result, there has been increased use of social networking by individuals with a chronic disease for a variety of reasons, such as learning more about their diagnosis, treatments, and ways to cope with the disease. This is an excellent resource available to patients that gives them additional health information and support from individuals with the same health condition.

Adequate social support can lead to a sense of shared accountability in the management of their care while learning symptom management, how to meet psychosocial needs, and improve their functional status (Strekalova et al., 2018). When patients are given the right tools and support, they believe they can manage their health effectively. Patient motivation, self-efficacy, and health beliefs are vital components of chronic disease management.

Strengths of Evidence

All of the studies addressed some aspect of the SDoH and/or provided pertinent quantitative or qualitative information regarding the healthcare provider or patient perspective as it relates to chronic disease management. The epidemiological and correlational observational studies cited above can provide insight into a few of the factors or variables contributing to chronic disease such as HTN, especially as they occur overtime. In addition, qualitative studies can provide rich information from the perspective of providers and patients to help one better understand the intricacies of chronic disease management. More randomized controlled trials, meta-analyses, and systematic reviews can be conducted in the future to help generate more diverse, higher level evidence on the topic based on the results gleaned from lower-level research studies and quality improvement projects.

Health educational interventions can be incorporated into healthcare providers' daily practice to help promote patient-provider trust and communication, improve interdisciplinary communication, improve health literacy, provide relevant and useful health information, reduce racial/ethnic disparities, and enhance self-efficacy and self-care practices (Legido-Quigley et al., 2015; Strekalova et al., 2018; Odusola et al., 2016; Salim et al., 2019).

Weaknesses of Evidence

What is missing in the literature is how an educational intervention, such as a holistic educational intervention, impacts self-efficacy and self-management in vulnerable populations. More specifically, how this type of intervention would affect racial-ethnic individuals, hypertensive individuals, and individuals at risk for HTN (i.e., obesity, diabetes, hyperlipidemia, CKD, & mental health disorders). More research and quality improvement projects are necessary

to reduce the current knowledge gap that exists concerning specific educational health interventions in hypertensive disease management and screening in racial-ethnic minorities, particularly African Americans, different Hispanic communities, and Asians such as Filipinos. Robust, high quality evidence is lacking on this particular topic (i.e., randomized controlled trials, meta-analyses, & systematic reviews), which makes the evidence less generalizable to different populations and settings.

Gaps and Limitations

One of the most significant limitations in this literature review is the lack of research on different racial and ethnic groups, especially various Latino communities and other racial/ethnic groups, such as Asians (in the US) (Bennett et al., 2016; Divens et al., 2019; Hicks et al., 2005; Hunte et al., 2012; Zhao et al., 2014). There may be a substantial amount of research on HTN, risk factors, and pharmacological interventions for HTN in African Americans, but African Americans are still struggling with disproportionate numbers of chronic disease and significant health complications. As these communities continue to grow, it is essential to have a more comprehensive understanding of cultural nuances to help reduce the incidence of stereotyping and engaging in 'racially bias' behaviors, which can negatively impact the quality of care (Kendrick et al., 2015).

Miscommunication can easily occur because of cultural differences. Culturally sensitive educational interventions for hypertension disease management and screening in racial/ethnic minorities, especially for African American adults, who have the highest risk for health complications, are integral in enhancing communication and patient-provider interactions in the primary care setting (Kendricks et al., 2015). Ultimately, vulnerable populations cannot carry out

desired recommendations without the resources they need to help them be successful in their endeavors.

While there is research on different racial/ethnic minorities and various chronic diseases, each population has its idiosyncrasies that are influenced by the SDoH as well as idiosyncrasies associated with the disease process itself (Young et al., 2018; Strekalova et al., 2018; Im et al., 2018; & Reich et al., 2019). Healthcare providers must provide accurate and relevant health information, as well as culturally competent and sensitive care.

All underserved populations can benefit from a holistic educational intervention- it is crucial to reach out to African Americans because they have a substantially higher risk of developing hypertension at a younger age, along with subsequent cardiovascular complications (Ferdinand & Nasser, 2017: Johnson et al., 2016). In addition, Spanish-speaking patients are also at risk for suboptimal care. Not speaking the same language as the provider, or speaking English as a second language, can result in miscommunication. Lack of health insurance may be another factor influencing medical care and the number of medical visits they are able to make (Hicks et al., 2005). Therefore, an educational intervention available in Spanish could be very helpful for reinforcing teaching in the clinic, especially for non-Spanish-speaking healthcare providers. A holistic educational intervention provides an opportunity for healthcare providers to reduce the gap on health disparities and miscommunication. One can address the SDoH specifically impacting one's patients, thereby improving the overall quality of care.

METHODS

This quality improvement project adopted a methodology to meet the following aim: determine pre-survey and post-survey hypertension knowledge and disease management self-

efficacy using the *Self-Efficacy for Managing Chronic Disease* (SEMCD) 6-item scale to help assess the impact of the holistic blood pressure action plan (HBPAP) on hypertension knowledge and self-efficacy in at Kids Kare and Family Kare Clinic.

Project Design

A descriptive quantitative project design was used for this QI project and included the use of a validated tool, the SEMCD 6-item scale. As discussed before, this scale includes questions about one's confidence level in their ability to perform activities, in addition to taking medication, to reduce the impact of the illness on their life (Self-Management Resource Center, 2021). Other questions included age, perceived knowledge of HTN, usefulness of the HBPAP, and if the participants would recommend the educational intervention to their family and friends. A Google pre-survey was completed, followed by the administration and review of the educational pamphlet by the project director (PD), and then a post-survey was administered immediately following the intervention. Increasing one's knowledge allows one to better assess disease susceptibility, disease severity, perceived benefits, and perceived risks. It is more likely an individual will change a specific behavior or continue to engage in a particular behavior based on their level of knowledge and perceived sense of self-efficacy.

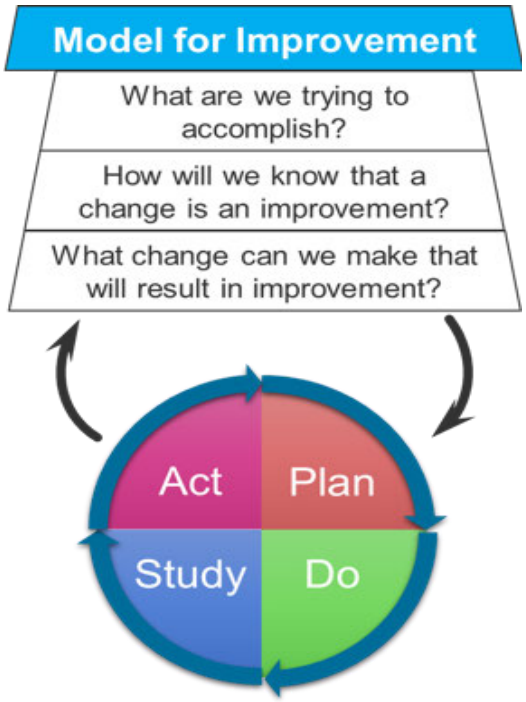
Model for Implementation

Healthcare organizations are always looking for ways to improve the delivery and quality of patient care. The Model for Improvement (MFI) is a simple, powerful tool that was created by the Associated in Process Improvement (API) to facilitate improvement within organizations (IHI, 2020). This particular model was chosen to guide this DNP project because it is not meant

to replace existing models within the selected organization but rather accelerate improvement within the organization (Figure 2).

Figure 2

The API Model for Improvement and the PDSA Cycle



Institute for Healthcare Improvement (2020).

The first step of the MFI process is to identify the aims and what is precisely is to be accomplished. The aim of this DNP project is to increase knowledge and self-efficacy rates in hypertensive and high-risk individuals by 15% after administrating a holistic educational intervention.

Plan-Do-Study-Act (PDSA)

The PDSA is the part of the QI process that enables one to test changes in real work settings and determine if the change is an improvement (IHI, 2020). Changes can be made and tested to determine their outcome of improvement to the overall process. The PDSA cycle is a

method that allows one to formulate a plan, test it, and measure the outcomes. Changes can be reformulated and retested, thereby optimizing the results or outcomes. Before implementing changes on a larger scale, small-scale tests are performed to determine if the desired outcomes are realized (IHI, 2020).

The PDSA cycle is comprised of four steps: 1) Devise a **Plan** for the test or observation, including a method for collecting data 2) **Do** or implement the test on a small-scale and document any issues or unexpected observations 3) Analyze the data, **Study** the results, compare to prediction, summarize findings, and prepare for next cycle (IHI, 2020) 4) Reflect on the plan and outcomes and **Act** accordingly. Standardize the improvement and implement or return to step 1 and revise the plan. Repeat the cycle. In this project, the steps were as follows:

Plan

The project director (PD) discussed the project idea with clinical preceptor and clinic owner. A holistic educational pamphlet (holistic blood pressure action plan [HBPAP]) was developed for hypertensive patients, and patients at risk for hypertension, to improve hypertension awareness, enhance self-efficacy, and improve self-management.

Do

Baseline data was collected via Google pre-survey by the PD. Then, the PD reviewed the pamphlet with each participant and immediately conducted a Google post-survey after the intervention.

Study

The data that was obtained from the pre-survey and post-surveys were analyzed on Stata and Google spreadsheets to determine the impact of the educational intervention on hypertension knowledge and self-efficacy. The results are summarized and discussed later in this paper.

Act

Determine the overall success or failure of the HBPAP health education intervention. Improve strategic plan for successful implementation of the HBPAP in the future. Update the intervention with a solution for the identified problems. Prepare for the next PDSA cycle.

Setting and Stakeholders

This QI project was conducted at Kids Kare Pediatrics and Family Kare Clinic, located in Phoenix, Arizona (Appendix A). This specific setting was selected because the staff sees patients from a variety of ethnic backgrounds. There is a large, low-income, Hispanic population at this clinic that could potentially find some value from this type of educational intervention, especially one that is available in Spanish. Many of the patients prefer communicating in their native language. It is therefore imperative to make educational materials available to patients in their native language to improve communication and enhance their understanding of their condition. Another reason for the selection of Kids Kare Pediatrics and Family Kare is the prevalence of health-related risk factors and chronic diseases in this particular population (i.e., obesity, HTN, diabetes, hyperlipidemia, renal disease, psychiatric diagnosis such as anxiety & depression). Lastly, many of the individuals are underinsured or uninsured. Holistic interventions are integral to patient-centered care, especially when one considers the impact of socioeconomic status and health access on chronic disease management.

First-line stakeholders included the day-to-day leader (DNP student, project director [PD]), clinical leader and technical expert (clinical preceptor, [FNP]), medical assistant (MA), and sponsor (Dr. Lopez), as these healthcare providers and ancillary staff have an interest in improving the quality of care of patients. The providers at Kids Kare Pediatrics and Family Kare are dedicated to the delivery of patient-centered care in a warm environment where the psychosocial, physical, and spiritual needs are incorporated into the plan of care (Kids Kare Pediatrics and Family Kare, 2016). Dr. Carlos J. Lopez is the Senior Pediatrician and Kids Kare and Family Kare President (Kids Kare Pediatrics and Family Kare, 2016). He received his medical degree in Montemorelos, Mexico in 1992, and then completed a Pediatric Training Program at Texas Tech University. Dr. Lopez is fluent in Spanish and Portuguese. The clinical preceptor, Dr. Jose Santoyo, as well as other healthcare providers in the practice, may benefit from this intervention because it will allow them to deliver holistic, comprehensive hypertension education and provide resource information to patients in a succinct manner. The role of the MA was supportive in that she assisted in recruiting participants each day data was collected.

Many patients could find this type of educational intervention useful because the information will be available in English and Spanish. Patients are relevant stakeholders as well to the degree that their health may be affected by recommendations made in the HBPAP pamphlet, that is, if they choose to incorporate the recommendations into their daily lives in hopes of improving self-efficacy and disease management skills. For individuals at risk for HTN, increasing their knowledge about HTN can play a role in prevention and early detection of HTN for better health outcomes. Second-tier stakeholders include payment agencies such as Medicare,

who are concerned about reducing healthcare costs and improving health outcomes by decreasing unnecessary ED utilization and inpatient admissions.

Planning the Intervention

The bilingual, holistic blood pressure action plan (HBPAP) was formulated by the PD. Recent evidence-based information from the American College of Cardiologists, American Heart/Stroke Association (AHSA), American College of Physicians, American Academy of Family Physicians, and Mayo Clinic have been incorporated into the HBPAP. Data on heart disease in Hispanic Americans was included from the Office of Minority Health of the US. Department of Health and Human Services in order to ensure integration of a culturally competent resource. According to the CDC, individuals with the worst self-reported health also had decreased health literacy (CDC, 2019). The HBPAP was written at a sixth grade reading level to increase the likelihood that patients will comprehend the material. Fifty HBPAP pamphlets were printed professionally at a local printing store in each language (for 100 pamphlets) and they contained the following elements:

1) Hypertension definition, etiology, risk factors, and BP guideline recommendations.
2) Basic pathophysiology, possible signs/symptoms (with emphasis on HTN being a silent killer), and triage/when to seek care (i.e., emergent, urgent, call provider for an appointment).
3) Lifestyle management tips (i.e., diet, physical activity, smoking cessation, and stress management) with healthy living recommendations.
4) Keeping a BP log. Patients will be encouraged to check BP regularly and when symptomatic to monitor for trends in BP.

5) Medication adherence with current medication guidelines and recommendations for HTN treatment.

A recommendation will be made to determine appropriate BP parameters, the desired BP range, and utilization of as needed antihypertensive medication with the patient's healthcare provider.

6) Treatment of behavioral health disorders, behavioral health and/or case management referrals- a discussion concerning the connection between hypertension and mental health disorders, such as anxiety and depression, and the importance of making healthcare provider aware of these feelings. This will facilitate adequate care for the entire person.

Patients will be encouraged to discuss treatment options for their condition/situation with PCP to facilitate care coordination for medical, socioeconomic, and mental health services/needs.

7) The following list of resources were included in the pamphlet: social support groups (e.g., Facebook), American Heart Association, and free nurse hotline available 24-7.

The PD covered the minimal cost associated with printing the HBPAP pamphlets. The pamphlet was approved by Dr. Carlos Lopez and the DNP project committee.

Participants and Recruitment

The project participants were recruited by convenience and purposive sampling, without regard for race or ethnicity. The PD was scheduled in the clinic from 3/29/2021 – 4/02/2021 with the clinic director and practice manager. The projected number of participants for the project was between 40 and 50. While the emphasis was on patients with a diagnosis of HTN, diabetes, obesity, hyperlipidemia, chronic kidney disease (CKD), and mental health disorders such as

anxiety and depression, all patients who were eligible were asked to participate in the project. Inclusion criteria included the following: (a) a diagnosis of hypertension and/or (b) an established or new patient at the clinic (c) must be 18 years of age or older (d) English or Spanish speaking. Exclusion criteria included: non-English (except Spanish), non-Spanish speaking, pregnant, and mentally handicapped patients.

At the beginning of each day the PD was scheduled to be in the clinic, Kids Kare and Family Kare Clinic provided the PD with a list of new and established patients who had a medical visit scheduled with the PD's FNP preceptor, Dr. Jose Santoyo. The PD reviewed the list with Dr. Santoyo to identify potential participants for the QI project. The PD met with the MA each day to explain the project and ask the MA to ask the patients identified as potential participants if they were interested in participating in the project when they checked in for their appointment. The MA used a recruitment script to introduce the project to the potential participants (a copy of the recruitment script is located in Appendix C). The MA translated the script in Spanish to Spanish-speaking patients. The PD speaks Spanish fluently as well. The patients who expressed an interest in participating were given a printed disclosure form in English or Spanish by the MA to review in the waiting room (or exam room) before their appointment.

The number of participants selected was based on availability. Based on the average show rate of the clinic, the anticipated minimum number of participants to be recruited was twenty with a maximum number between forty and fifty participants. The sampling criteria was appropriate based on accessibility, convenience, and allows for replication in future QI projects (IHI, 2020).

Consent and Ethical Considerations

Use of health data obtained from QI projects are crucial in improving health systems and require QI project adherence to privacy and ethical principles to ensure patient privacy and safety (Lusignan et al., 2015). Every project must adhere to three basic ethical principles; namely, autonomy, justice, and beneficence (Terry, 2015). Autonomy is related to the concept of informed consent, that is, an individual's right to make an informed decision about study participation and any risks associated with participation. Patients will be given a disclosure form with an explanation of the purpose of the project (Appendix B). Beneficence refers to the healthcare provider's desire to promote good, prevent harm, and act in the best interest of participants (Terry, 2015). This QI project seeks to improve hypertension management and reduce health complications in hypertensive individuals and individuals at risk for hypertension. Justice is another important ethical consideration in that various populations must be included to ensure fair representation of all participants, including marginalized populations. The educational intervention will be available to individuals of low socioeconomic status and Spanish speaking individuals. The benefits outweigh the risks, in that there are no associated risks for physical harm, pain, embarrassment, or loss of privacy with project participation. This doctoral QI project was developed with the guidance of the University of Arizona faculty DNP committee.

Patients who are diagnosed with a mental illness are classified as a vulnerable population, and some may have a diminished capacity to make autonomous decisions. These individuals will more than likely have a caretaker who has power-of-attorney (POA) and can verbalize willingness to participate in the QI project. This was not the case with any of the participants. Voluntary participants provided verbal willingness to participate. These individuals have full

autonomy concerning health-related decision making and are free of power-of-attorneys and/or guardians. Participants were made aware that they the right to withdraw from the project at any time and that their personal information will not be shared. Furthermore, participants were reassured that identifiable information will be de-identified, scanned, stored, and locked in a personal computer to ensure participant anonymity.

An application to the University of Arizona's Human Subjects Protection Program and Institutional Review Board (IRB) was submitted before the implementation of this QI project to ensure participants are protected from potential harm. A copy of the Determination of Human Subjects form is located in Appendix A. A copy of the project timeline is located in Appendix F.

Data Collection

Once IRB approval was obtained, a meeting was held with Dr. Santoyo, the PD's FNP preceptor, from Kids Kare and Family Kare Clinic, to establish a roll-out date for the QI project. Data was collected from 03/29/2021 – 04/02/2021.

After consent was obtained from the participant, the MA placed a green sticky note on the exam room door. She also made the PD aware that the participant was ready for the PD to enter the room. The PD immediately checked with Dr. Santoyo (if available) to ascertain if he preferred to see the patient before or after the intervention, so as not to interfere with clinic flow. Upon entering the exam room, the PD greeted the patient and confirmed that they reviewed the disclosure form. The PD answered questions and confirmed they wish to participate in the project, which was estimated to take five minutes or less. If they agreed to participate, the PD asked pre-survey questions and recorded their answers in the PD's personal tablet. Then, the PD reviewed the educational pamphlet with the participant and asked if they had any questions. The

pamphlet was available in English and Spanish. Then, the PD asked the post-survey questions and recorded their answers in the PD's personal tablet. The following COVID-19 protocol was in place and adhered to in the clinic: 1) wear a mask at all times in the clinic; 2) maintain 6 feet social distancing when interacting with patients (if possible); 3) ask patients survey questions and enter their responses in the tablet to prevent handling by multiple participants; and, 4) sanitize tablet and hands in between participants.

Survey response data was collected via Google surveys, which included questions from the SEMCD 6-item scale (Self-Management Resource, 2021). A four-item version of this scale is available in Spanish and was developed for Spanish-speaking participants by Self-Management Resource. The SEMCD 6-item scale contains components from other self-efficacy scales and was devised for a Chronic Disease Self-Management study (Self-Management Resource Center, 2021). It is a commonly used scale for many chronic diseases because it addresses symptom control, role function, emotional functioning, and communication with healthcare providers. The SEMCD 6-item scale has a Cronbach's alpha of .88 can be used to determine one's confidence level in managing their chronic disease (Self-Management Resource Center, 2021). It was used to assess the perceived effectiveness of the HBPAP health education intervention. The pre-survey included the SEMCD scale only, whereas the post-survey included questions from the SEMCD scale, in addition to questions concerning how helpful the pamphlet was, perceived knowledge of HTN, if they would recommend the pamphlet to friends and family, and what their current age was in years (see Appendix D to view pre-and-post surveys).

The PD is the owner of the Google surveys and spreadsheets that are stored in a password-protected file; on a password-protected laptop, only the PI has access to. Once the

project is complete, links to the Google surveys and all signed consent forms will be submitted to the University of Arizona College of Nursing c/o Dr. Alice Pasvogel to be stored for five years per IRB requirements.

Data Analysis

Stata statistical software and Google Sheets were used for data interpretation and analysis. The tool that was utilized for data collection was based on the SEMCD 6-item scale with additional questions regarding participant age, as well as the usefulness, perceived knowledge, and likelihood of recommending the HBPAP to friends and family. Comparing baseline knowledge and self-efficacy to post-survey knowledge and self-efficacy scores provided insight as to the perceived effectiveness of the HBPAP health education intervention on knowledge and self-efficacy.

The SEMCD-6 uses Likert type scale responses that range from not confident at all to totally confident. The ordinal data was displayed in the form of frequencies and relative frequencies, as well as mean, median, minimum, and maximum. Bar charts were used for graphical representation. A Wilcoxon signed-rank test was used to compare pre and post scores to help determine statistical significance of the variables associated with self-efficacy (i.e., fatigue management, discomfort/ADL management, emotional management, & general symptom/ADL management). A Spearman's rank correlation coefficient was used to ascertain any correlation between age and posttest self-efficacy. The perceived knowledge, usefulness, and likelihood of recommending the educational intervention to friends and family members was assessed as a 'yes' or 'no' question, thus making them categorical variables. Pie charts were used to display these categorical variables graphically. The numerical display includes frequencies

and relative frequencies. Participant age is a continuous variable and was graphically displayed with boxplots and histograms. Since the data was not symmetric or normally distributed, the minimum, Q1, median, Q3, and maximum were reported.

RESULTS

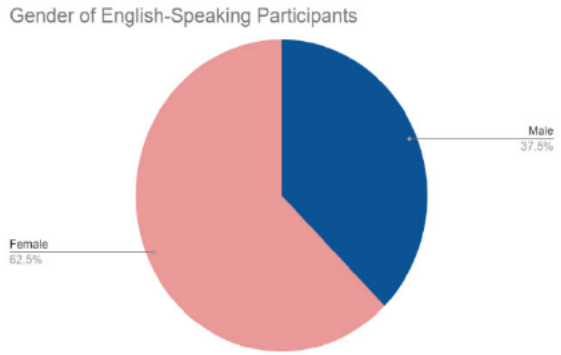
Outcomes

Results of the data analysis, including pre-survey and post-survey results, will be presented in this section. Details are given on the demographics of the participants, as well as the main findings of the QI project.

In both the English and Spanish-speaking groups, there were more female than male participants. Half of the English-speaking participants were Hispanic, whereas 100% of the participants from the Spanish-speaking group were Hispanic. The total sample size for the pre- and post-intervention was n = 19. There were eleven participants in the Spanish-speaking group and eight participants in the English-speaking group. The mean age of the English-speaking group was 42.75 years, whereas the mean age of the Spanish-speaking group was 52.9 years. A box plot, histogram, and table with the mean, standard deviation, and frequency tables are also depicted with the results. See Figures 3 through 9 and Tables 1 and 2.

Figure 3

Percentage of Males and Females (English)



Gender	
Male	3
Female	5

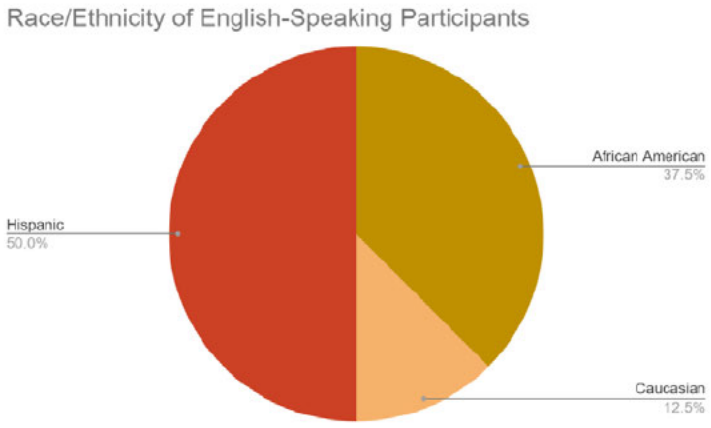
Figure 4

Percentage of Males and Females (Spanish)

Gender	
Male	5
Female	6

Figure 5

Percentage of Race/Ethnicity



(English)

Race/Ethnicity	
African American	3
Caucasian	1
Hispanic	4

Figure 6

Histogram of Age (English)

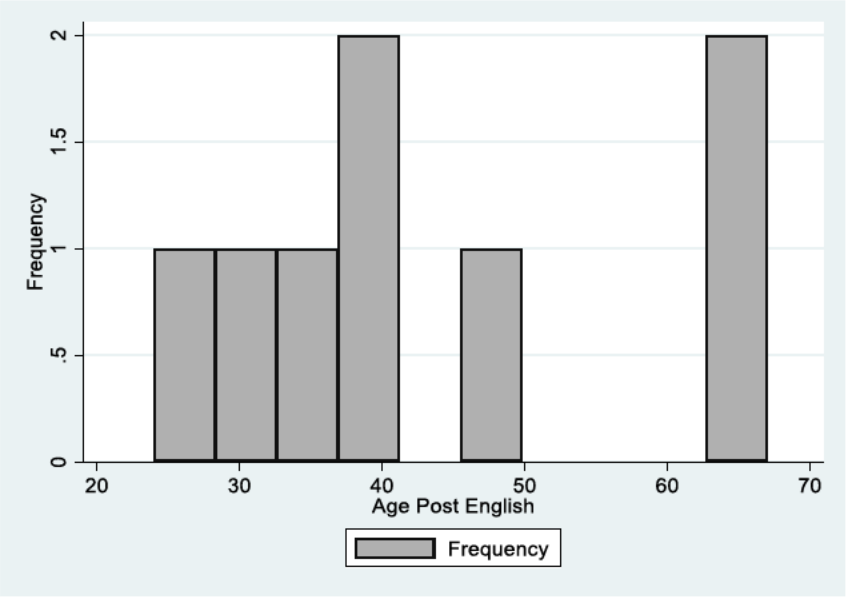


Figure 7

Boxplot of Age (English)

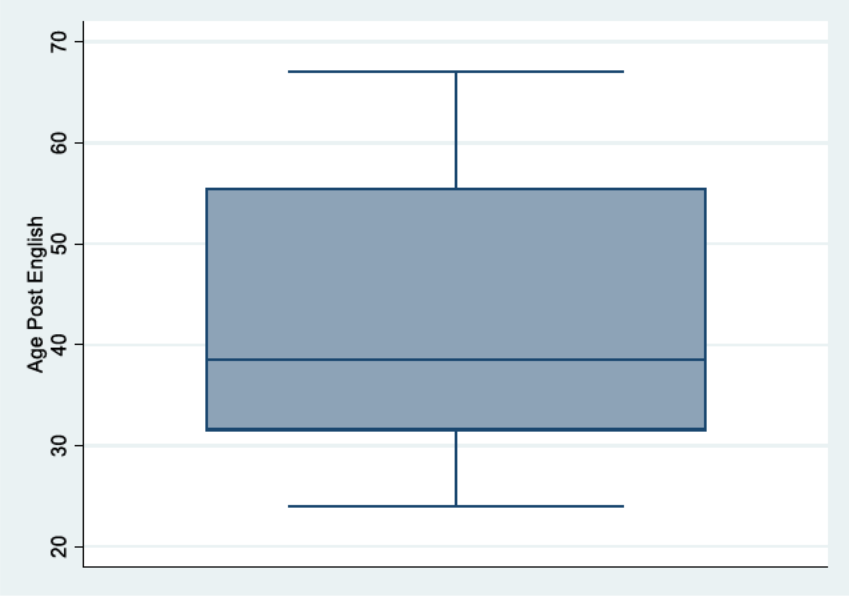


Table 1

Summary of Age (English)

Age Post English	Summary of Age Post English		
	Mean	Std. Dev.	Freq.
24	24	0	1
30	30	0	1
33	33	0	1
38	38	0	1
39	39	0	1
48	48	0	1
63	63	0	1
67	67	0	1
Total	42.75	15.452693	8

Figure 8

Histogram of Age (Spanish)

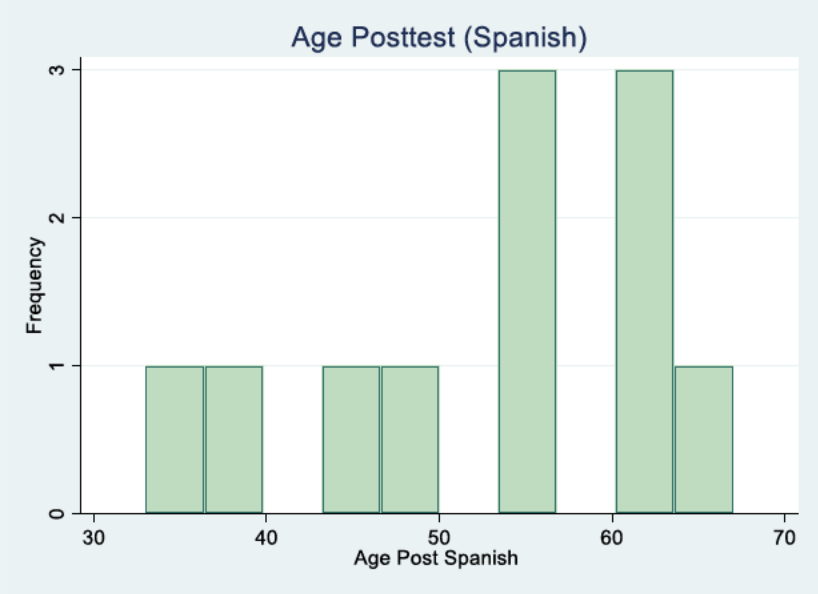


Figure 9

Boxplot of Age (Spanish)

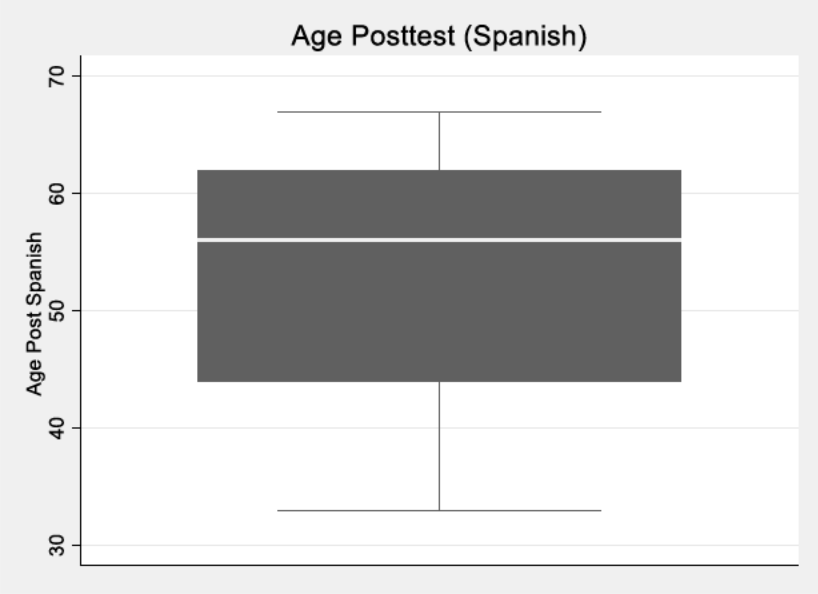


Table 2

Summary of Age (Spanish)

Age Post Spanish	Summary of Age Post Spanish		
	Mean	Std. Dev.	Freq.
33	33	0	1
37	37	0	1
44	44	0	1
47	47	0	1
55	55	0	1
56	56	0	2
62	62	0	2
63	63	0	1
67	67	0	1
Total	52.909091	11.193342	11

Individuals who participated in this QI project had a history of hypertension, prediabetes or diabetes mellitus, dyslipidemia, obesity, anxiety, and/or depression. One English-speaking Hispanic woman indicated she was told during her visit that her hemoglobin A1C was within normal range after being in the prediabetic range previously. All of the participants reported increased knowledge after the intervention; they also shared that they found the intervention to be helpful. Moreover, all of the participants indicated they would recommend the holistic blood pressure action plan (HBAP) to their friends and family. See Figures 10 through 15 and Tables 3 through 8.

Figure 10

Percentage of Perceived Knowledge Gained from HBAP (English)

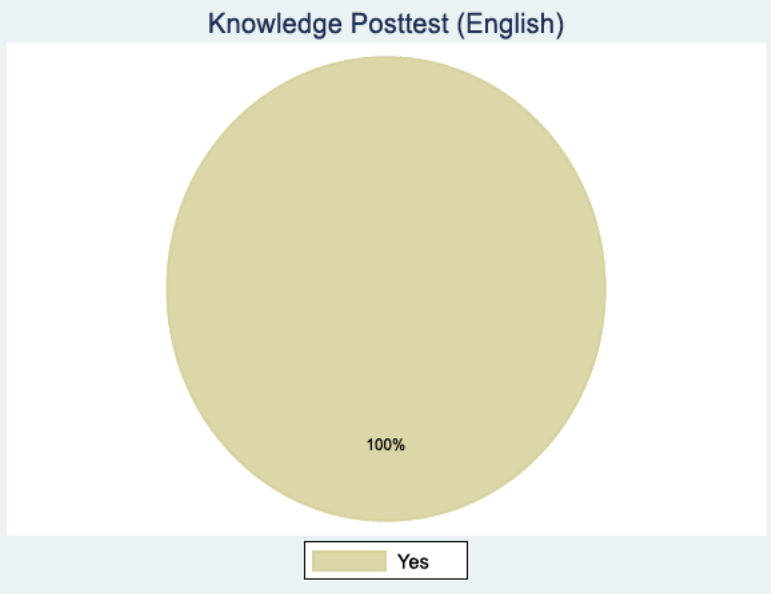


Table 3

Knowledge Frequency and Percentage Table (English)

Knowledge post English	Freq.	Percent	Cum.
Yes	8	100.00	100.00
Total	8	100.00	

Figure 11

Percentage of Perceived Helpfulness of HBAP (English)

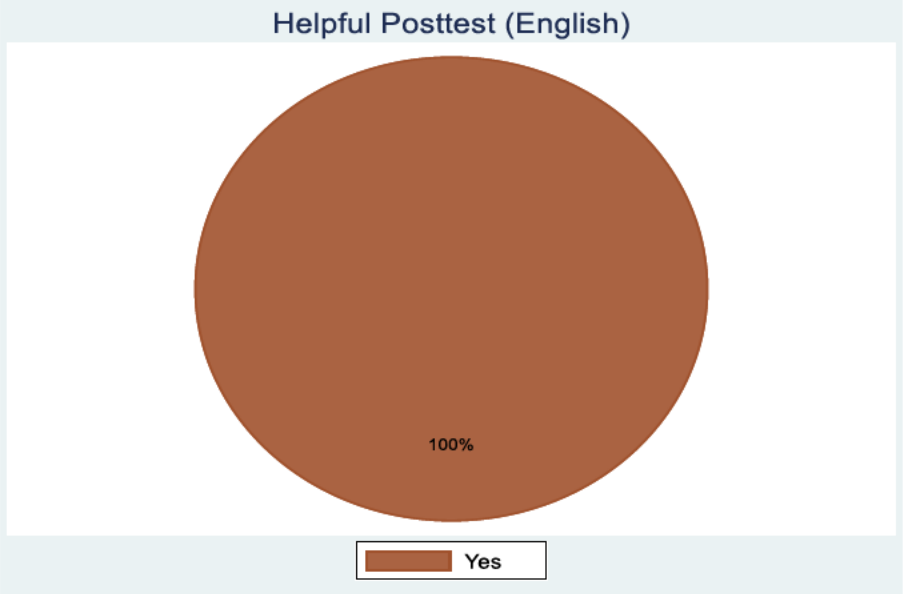


Table 4

Helpfulness Frequency and Percentage Table (English)

Helpful post English	Freq.	Percent	Cum.
Yes	8	100.00	100.00
Total	8	100.00	

Figure 12

Percentage of English-speaking Participants Who would Recommend the HBAP to Friends and Family

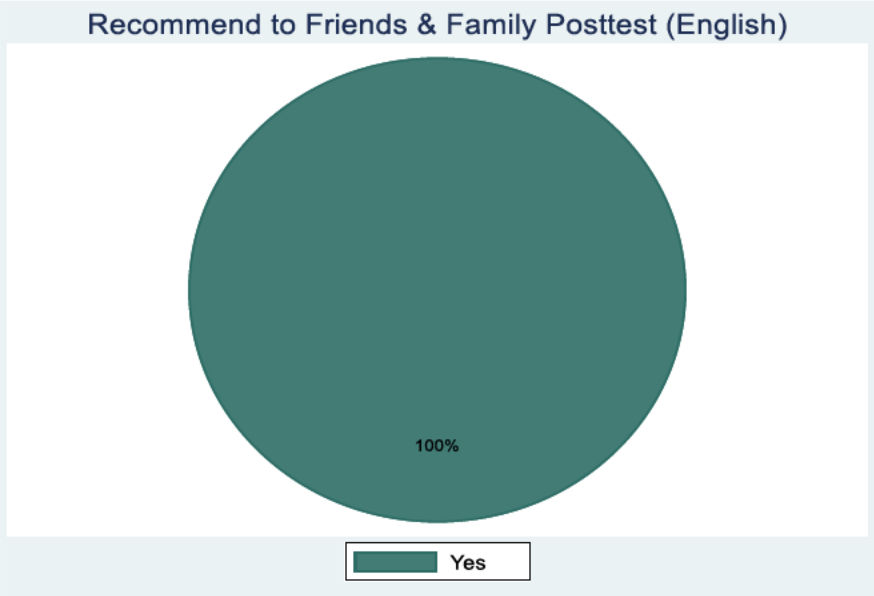


Table 5

Recommend to Friends and Family Frequency and Percentage Table (English)

Recommend to friends and family post English	Freq.	Percent	Cum.
Yes	8	100.00	100.00
Total	8	100.00	

Figure 13

Percentage of Perceived Knowledge Gained from HBAP (Spanish)

Table 6

Knowledge Frequency and Percentage Table (Spanish)

Knowledge Post Spanish	Freq.	Percent	Cum.
Yes	11	100.00	100.00
Total	11	100.00	

Figure 14

Percentage of Perceived Helpfulness of HBAP (Spanish)

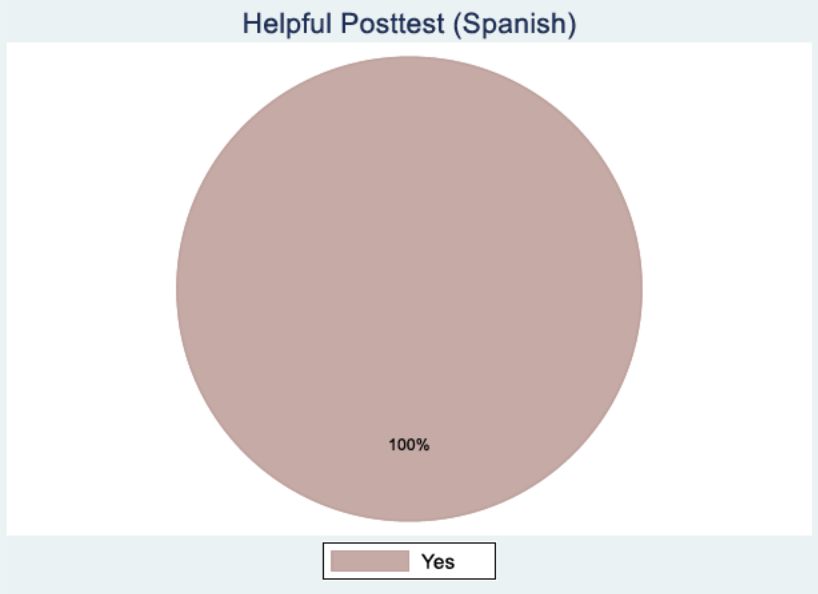


Table 7

Helpfulness Frequency and Percentage Table (Spanish)

Helpful Post Spanish	Freq.	Percent	Cum.
Yes	11	100.00	100.00
Total	11	100.00	

Figure 15

Percentage of Spanish-speaking Participants Who would Recommend the HBAP to Friends and Family

Table 8

Recommend to Friends and Family Frequency and Percentage Table

Recommend Post Spanish	Freq.	Percent	Cum.
Yes	11	100.00	100.00
Total	11	100.00	

Self-efficacy was measured with a Likert scale with questions ranging from 0 = not at all confident to 10 = very confident, including a middle neutral option. A comparison of pre and post medians for the self-efficacy measures revealed that self-efficacy increased to some degree in all domains for both English and Spanish-speakers. See Figures 16 and 17.

Figure 16

A Comparison of Pretest and Posttest Self-efficacy Scores of English-speakers

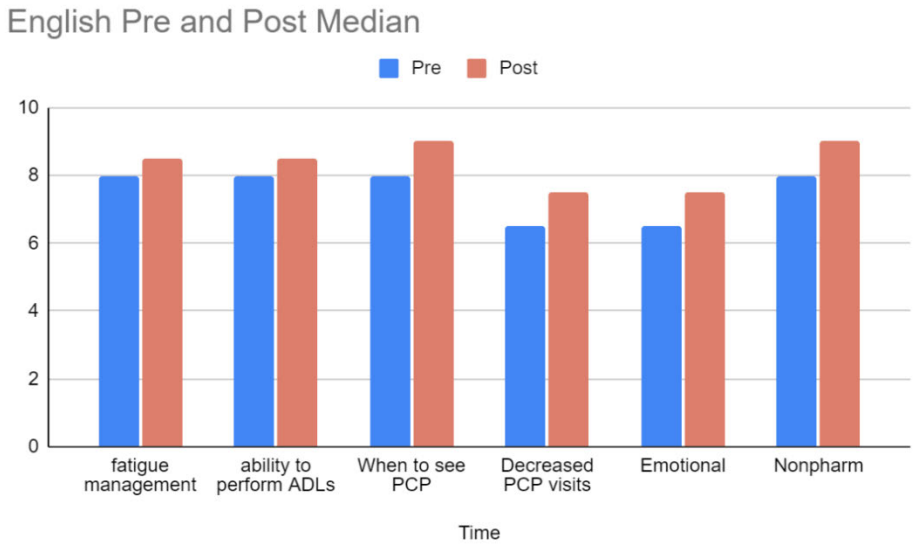
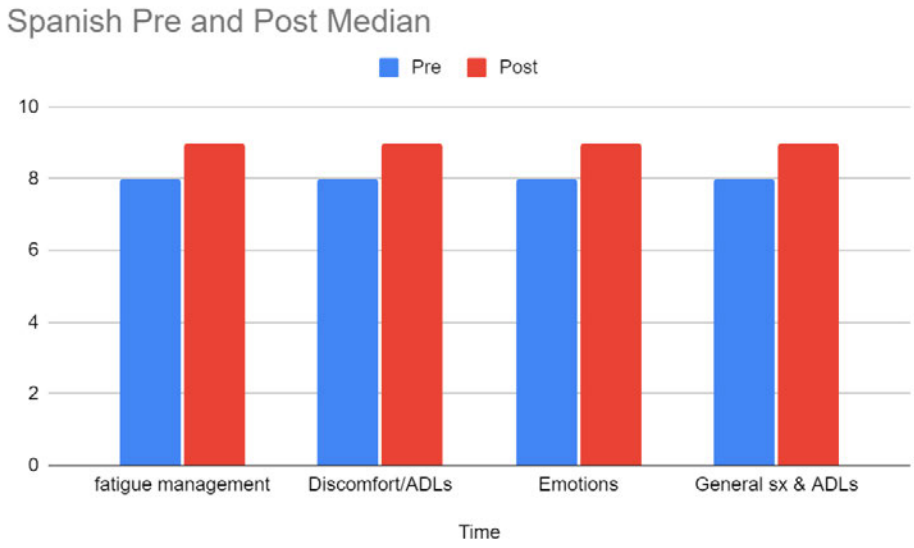


Figure 17

A Comparison of Pretest and Posttest Self-efficacy Scores of Spanish-speakers



A Wilcoxon signed-rank test was performed on self-efficacy ordinal data to determine if the difference between pretest and posttest scores were statistically significant or not. Statistically significant results were observed in both English and Spanish-speaking groups. In the Spanish group, there was a statistically significant difference between pretest and posttest scores in three out of four self-efficacy measures (i.e., fatigue management, discomfort and ADL management, & emotional functioning/management) ($p < 0.05$). No significant differences were noted in the general symptom control and everyday functioning category ($p= 0.08$).

In the English-speaking group, only two out of six self-efficacy measures (i.e., when to call PCP & non-pharmacologic interventions) were noted to have significant differences in pretest and posttest scores ($p < 0.05$). No statistically significant differences were observed in fatigue management, ability to manage condition and perform ADLs regularly, knowing when to contact PCP, completing activities that reduce one's need to see PCP, and ability to control emotional distress. A Spearman's rank correlation test did not reveal an association between age and self-efficacy measures in the English and Spanish-speaking groups. Refer to Tables 9-13.

Table 9

Fatigue Management Table

```
Wilcoxon signed-rank test

        sign |      obs   sum ranks    expected
-------------+---------------------------------
    positive |        0           0          19
    negative |        4          38          19
        zero |        7          28          28
-------------+---------------------------------
         all |       11          66          66

unadjusted variance      126.50
adjustment for ties       -0.50
adjustment for zeros     -35.00
                       ---------
adjusted variance         91.00

Ho: fatiguemanagementprespa = fatiguemanagementpostspa
              z =  -1.992
    Prob > |z| =   0.0464
    Exact Prob =   0.1250
```

Table 10

Ability to Manage Discomfort and Perform ADLs Table

```
Wilcoxon signed-rank test

        sign |      obs   sum ranks    expected
-------------+---------------------------------
    positive |        0           0          19
    negative |        4          38          19
        zero |        7          28          28
-------------+---------------------------------
         all |       11          66          66

unadjusted variance      126.50
adjustment for ties       -0.13
adjustment for zeros     -35.00
                       ---------
adjusted variance         91.38

Ho: discomfortADLmanagprespa = discomfortADLmanagpostspa
              z =  -1.988
    Prob > |z| =   0.0469
    Exact Prob =   0.1250
```

Table 11

Emotional Functioning/Management Table

```
Wilcoxon signed-rank test

        sign |      obs   sum ranks    expected
-------------+---------------------------------
    positive |        0           0        22.5
    negative |        5          45        22.5
        zero |        6          21          21
-------------+---------------------------------
         all |       11          66          66

unadjusted variance      126.50
adjustment for ties       -0.50
adjustment for zeros     -22.75
                       ----------
adjusted variance        103.25

Ho: emotionmanagprespa = emotionmanagpostspa
              z =  -2.214
    Prob > |z| =   0.0268
    Exact Prob =   0.0625
```

Table 12

Knows When to Seek PCP Table

```
Wilcoxon signed-rank test

        sign |      obs   sum ranks    expected
-------------+---------------------------------
    positive |        0           0          13
    negative |        4          26          13
        zero |        4          10          10
-------------+---------------------------------
         all |        8          36          36

unadjusted variance       51.00
adjustment for ties       -0.13
adjustment for zeros      -7.50
                       ----------
adjusted variance         43.38

Ho: whentoseepcppreeng = whentoseePCPposteng
              z =  -1.974
    Prob > |z| =   0.0484
    Exact Prob =   0.1250
```

Table 13

Non-pharmacological Interventions Table

Wilcoxon signed-rank test

sign	obs	sum ranks	expected
positive	0	0	13
negative	4	26	13
zero	4	10	10
all	8	36	36

unadjusted variance	51.00
adjustment for ties	-1.25
adjustment for zeros	-7.50
adjusted variance	42.25

Ho: nonpharminterventionspreeng = nonpharminterventionsposteng
z = -2.000
Prob > |z| = 0.0455
Exact Prob = 0.1250

DISCUSSION

Summary

The purpose of this DNP project was to increase patient knowledge and self-efficacy at Kids Kare and Family Kare Clinic in Phoenix, Arizona. A bilingual, holistic blood pressure action plan was implemented at this primary care site for one week to help enhance knowledge about hypertension, improve self-management self-efficacy, and improve perception of environmental stress in adults with hypertension and/or risk factors for hypertension. Individuals with chronic conditions may find chronic condition management challenging because it is associated with lifelong self-monitoring, lifestyle, and medication regimens (Bhattacharya,

2015). Due to the fast-paced nature of the clinic and time constraints, health care providers may not always have enough time to review evidence-based information at length with patients. Patients may be confused as to which guidelines to follow and may find themselves without the social support they need.

The literature shows that the social determinants of health play a substantial role in chronic disease management. Many factors influence blood pressure such as age, race/ethnicity, culture, geographical location, and socioeconomics. It is important to consider these factors, in addition to religious/spiritual beliefs, access to care, and ability to communicate when looking at the overall picture of an individual's health. Social support can significantly impact compliance or adherence to the treatment plan (Osamor, 2015). There is evidence that receiving adequate social support can help one meet their own psychosocial needs, while leading to improved symptom management and functional status (Strekalova et al., 2018). Many of the findings of this DNP project support the literature in terms of the impact of knowledge and self-efficacy on chronic disease management.

Interpretation

The project question was the following: At Kids Kare and Family Clinic, does a bilingual educational intervention for patients with a diagnosis of hypertension about hypertension and using a holistic blood pressure action plan (HBPAP) improve their knowledge and self-efficacy about adopting a hypertension management plan? This DNP project demonstrated that 100% of English and Spanish-speaking individuals reported gaining knowledge from the HBPAP educational intervention. While there was no pretest to assess baseline knowledge of HTN, most of the participants articulated precisely what they learned from the intervention and what

information they found helpful. For example, many participants indicated they were not familiar with, or had forgotten, desirable blood pressure targets. Others were unfamiliar with what a hypertensive crisis was. Several participants were interested in learning about the blood pressure medications and their mechanism of action. It appeared as though everyone was exposed to some piece of new information, which enhanced their learning.

Not only did 100% of participants learn something new, but they also reported they found the information useful and would recommend the pamphlet to their friends and family. Perhaps it is likely all of the participants felt this way, but they may have been more inclined to provide a favorable response because the intervention was performed in person, as opposed to online or via email. Another factor possibly influencing this result is that several of the patients knew the PD from clinical rotations and may have been more inclined to provide positive feedback on the educational intervention. All of the participants completed all of the questions, so there was no missing data. There was a 0% attrition rate. It is possible patients were less inclined to withdraw from the project because it took less than five minutes of their time (most participants, that is) and they also received $10 for their time. One Spanish-speaking participant refused the $10, indicating he did not need it and was happy to participate in the project without recompense. The same individual spoke with the PD regarding his reliance on prayer to give him the strength and fortitude he needed in managing his illness. He did not use prayer in place of medicine, but rather in conjunction with it. In a way, God was his social support and motivation to take care of himself. It is important to understand the type of relationship one has with a higher power (if they have one) and how it can influence chronic illness.

While the aim of increasing knowledge and self-efficacy was met, the goal of a 15% increase in self-efficacy was not. Doing a pretest for knowledge might have been more precise but might have been too time consuming. The goal was to increase perceived knowledge of hypertension and most patients were able to verbalize what they had learned. There was a 10% increase in self-efficacy in specific domains of self-efficacy, and these areas of self-efficacy varied for the English and Spanish-speakers. There were several factors that may have impacted the results of the English and Spanish self-efficacy measures. The English version of the SEMCD is a 6-item scale and the one in Spanish is a 4-item scale. Whereas the 6-item English scale asks about managing fatigue, emotions, ADLs, when to see a provider, and using non-pharmacological interventions, the 4-item Spanish scale does not specifically ask about engaging in behaviors to reduce to the need to see the provider, knowing when to see the provider, or non-pharmacological interventions. Instead, there is a more general question that implies the individual knows when they need to see their provider, and that they know which behaviors to perform to see their provider less frequently. The Spanish questionnaire includes questions concerning management of fatigue, emotions, pain and ADLs, and general symptoms. For the Spanish-speaking group, there was a significant improvement in self-efficacy in terms of management of fatigue, emotions, and discomfort and performance of ADLs, but not for general symptom management. For the English speaking-group, there was a substantial improvement in self-efficacy in terms of when to visit their healthcare provider and utilizing non-pharmacological means to manage their condition.

In retrospect, the PD should have translated the 6-item English scale for a more exact translation and better comparison of results. The PD would be interested in observing if the

'general symptom' question in the Spanish survey would have been statistically significant if it would have been replaced with 'when to see PCP' and "engaging in behaviors to reduce need to see PCP," as they are more specific questions. Even though the SEMCD is a validated tool, the Spanish version should align more with the English version to provide a more accurate assessment. It is possible there were more statistically significant findings in the Spanish-Speaking group because there were more participants, albeit only three more than the English-speaking group.

One of the younger African American participants reported a very high baseline self-efficacy and self-reported knowledge of HTN. He shared that he tried to properly manage his condition because his mother had a stroke several years prior. While his knowledge and self-efficacy levels are high, his motivation to take care of himself stems from his mother's stroke and the aftermath of that event. Chronic pain, anxiety, and depression were diagnoses several participants dealt with. An older African female reported no confidence at all on a few pre and post survey questions. She was struggling with her blood pressure due to severe chronic back pain. Her results might have been influenced by the pain because the PD noticed she had some trouble concentrating during the intervention.

Implications

Practice

This DNP project demonstrated the usefulness of a HBPAP in hypertension education and management in the primary care setting. This project highlights how an educational pamphlet increases perceived knowledge of HTN and certain domains of self-efficacy. More specifically, in Spanish-speaking participants, there was increased perceived self-efficacy in the

management of fatigue, pain/ADLs, and emotion. In English-speaking patients, there was improved perceived self-efficacy in terms of knowing when to seek medical attention and utilizing non-pharmacologic measures for chronic condition management. The HBPAP enables healthcare providers to provide evidence-based information concisely to patients in the primary care setting. It also reminds patients to reach out to their provider if they are feeling depressed, stressed, or feeling unwell in any way. In addition, healthcare providers can give a copy of the pamphlet to patients or offer to send the pamphlet to their preferred email.

Education

This DNP project educated patients concerning the causes of HTN, risk factors for HTN, evidence-based treatment and BP guidelines, hypertensive emergency, when to call the healthcare provider, and also provided resource information (i.e., American Heart Association, free 24/7 nurse line, and Facebook HTN group). Providers and staff also received education on the most recent guidelines and impact of social determinants of health on blood pressure and overall health. DNP programs should provide appropriate education on the social determinants of health, cultural sensitivity, and effective provider-patient communication to enhance the delivery of patient-centered care.

Research

This DNP project can inform future quality improvement and research projects. There is an abundance of research on certain racial subgroups (e.g., African Americans & Mexican Americans), but there is a gap in the literature on HTN in different Hispanic communities (e.g., Puerto Ricans & Dominicans). The highest rates of HTN in the Hispanic community have been reported in Puerto Ricans and Dominicans (Rodriguez & Ferdinand, 2017). Other understudied

subgroups include Asian Americans, such as Filipinos. Many of the project participants were Hispanic, with a history of diabetes mellitus or prediabetes. Latinos may have lower rates of HTN compared to African Americans but have more difficulty with BP control. More research should be conducted on this particular subgroup to help reduce the risk of health complications. More qualitative studies should be performed to delve more deeply into how religious and spiritual practices, cognition, and emotional states interact and impact BP in the aforementioned populations.

No correlation was found between age and self-efficacy in this project. The average age of the Spanish-speaking group was slightly higher than the English-speaking group. There is a great deal of research that shows African Americans need more education on HTN, particularly younger African Americans, but this was not necessarily the case in this small sample. The young to middle aged African American in the English-speaking group reported increased knowledge and high self-efficacy. His motivation was a key factor in successful self-management. More research should be conducted on education, motivation, and self-efficacy in younger adults with chronic health conditions, as the prevalence of chronic conditions, such as HTN, continues to increase in this particular population. Future projects and studies could assess the impact of an educational intervention on BP but would have to arrange a follow up at a later date for the posttest.

Policy

Policy changes at the clinic level would include establishing policies in the clinic that enhance knowledge of hypertension management, such as making HBPAP pamphlets available in exam rooms. The healthcare providers at the clinic can decide if they wish to review the

pamphlet with the patients or not, but they will be available if the patients decide they would like to review one and take it home. Another local policy change would include asking patients if they would like a pamphlet emailed to them if they do not want a hard copy or they are concerned about misplacing the pamphlet. All healthcare providers should ensure patients receive adequate education on their health condition.

Limitations and Effects of the COVID-19 Pandemic on Outcomes

There are several limitations associated with this DNP project. First, the results are not generalizable because the data was collected at one clinic in Phoenix, Arizona. Most of the participants were Hispanic, mostly Mexican Americans. Second, many of the chronic disease follow up appointments were scheduled as telemedicine visits due to the pandemic, which influenced the total sample size. One of the inclusion criteria was an in-person appointment, so the intervention could be delivered face-to-face (with precautions). Another factor affecting total sample size was the number of adult patients at the clinic and the nature of their visit. Approximately 50% of the patients at Kids Kare and Family Kare Clinic are pediatric patients and they did meet the eligibility criteria due to age. Dr. Santoyo and the PD decided to avoid most of the adult sick visits because it could have affected the outcome of the intervention. The anticipated sample size was between 20-40, but the total sample size was 19. Another limitation was that the PD did not assess pre-and post BP readings because the intervention took place the same day. Initially, the pre-survey was going to be given in the clinic, along with the teaching, but the posttest was going to be assessed at a one month follow up to determine the impact on blood pressure. There were concerns about a high attrition rate with a one month follow up, which is why the pre and post data were collected the same day. Lastly, there was a change in

clinical site for implementation of the DNP project due to COVID-19. Initially, this was considered a limitation, but was ultimately beneficial to the project due to the large Spanish-speaking population at Kids Kare and Family Kare Clinic.

DNP Essentials Addressed

The Doctor of Nursing Practice (DNP) Essentials are specific elements and competencies fundamental to advanced nursing practice that must be met for a DNP degree (AACN, 2006). The DNP Essentials were developed by the American Association of Colleges of Nursing (AACN) as a means of preparing DNP graduates for different types of practice roles (AACN, 2006). DNP Essentials II, III, and VII were addressed in this DNP project.

DNP Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking

DNP Essential II promotes the use of delivery care models from a nursing science perspective to improve the health of specific patient populations (AANC, 2006). DNP graduates are expected to collaborate with other healthcare professionals for risk mitigation to improve patient outcomes. In this DNP project, a hypertension educational intervention was implemented at a low-income primary care clinic in Phoenix, Arizona to improve hypertension management in individuals with HTN and/or HTN risk factors. The Health Belief Model was used to assess the participants' perception of disease, disease severity, benefits of behavior change, and barriers associated with their condition.

DNP Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

DNP Essential III involves the integration of research and nursing practice. Essentially, DNP graduates should have the research skills to discover new knowledge that can be applied in nursing practice to ensure that patients receive quality care that is based on the best, most recent evidence (AANC, 2006). The translation of new science is not only applied but evaluated by the DNP as well. DNPs generate evidence through practice, influencing practice improvement and outcomes of care (AANC, 2006). A literature review was conducted for this DNP project prior to its implementation. In addition, the Model for Improvement (Plan-Do-Act-Study) was utilized to test changes in the clinic and determine if an improvement was associated with the change. The HBPAP devised by the PD was based on the most recent evidence provided by the American Academy of Family Physicians, American College of Cardiologists, American College of Physicians, American Heart Association, and Mayo Clinic. Clinical scholarship is applicable to this DNP project in that the results will be disseminated to the University of Arizona and Kids Kare and Family Kare Clinic.

DNP Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

DNP Essential VII focuses on individual and family health promotion and risk reduction strategies to improve public health (AANC, 2006). Clinical prevention was addressed in this doctoral project with the formulation of an educational pamphlet that included the definition of HTN and hypertensive crisis, causes and risk factors of HTN, potential health complications, current treatment guidelines and BP targets, and lifestyle recommendations (diet and exercise) to enhance HTN knowledge and self-efficacy. The PD reviewed the educational pamphlet with each participant.

Conclusions

Hypertension management can be difficult for many individuals for a number of reasons, such as environmental stress, comorbid conditions, insufficient knowledge, low self-efficacy, and language/cultural barriers. The results of this DNP project demonstrated that a bilingual holistic blood pressure action plan can significantly increase knowledge about hypertension and can also improve certain domains of chronic disease self-efficacy (i.e., management of fatigue, emotion, pain/ADLs, knowing when to see healthcare provider, & use of non-pharmacologic measures to manage condition) in English and Spanish-speaking patients at Kids Kare and Family Kare Clinic. Furthermore, all of the participants indicated they found the educational intervention helpful and would recommend the HBPAP pamphlet to their friends and family.

Many of the participants were Mexican American and had a history of prediabetes or type 2 diabetes mellitus (T2DM). More research is necessary to explore the connection between HTN and prediabetes/T2DM in Mexican Americans, particularly since Mexican Americans have the highest rates of uncontrolled BP, even though they have the lowest rates of HTN in the Hispanic community. Further research is needed in other racial/ethnic communities to better understand the idiosyncrasies of each culture and how they impact the health of different populations.

While it is integral to show cultural sensitivity, one must avoid racial profiling and engaging in racially bias behaviors when interacting with patients. It is imperative that healthcare providers take the time to properly educate patients and provide appropriate resources, allow patients to ask questions, and clarify information they do not understand to help build mutual trust, knowledge, and social support. Ultimately, healthcare providers can give patients the tools they need to help motivate and empower them to live healthier lives.

Plan for Sustainability

The educational intervention will continue at Kids Kare and Family Kare Clinic. Dr. Santoyo and one of his medical assistants will have copies of the bilingual HBPAP saved to their computer. The bilingual HBPAP pamphlets will be placed in the same location as the other brochures in the exam rooms. Patients can take a pamphlet, if they wish, or may request the pamphlet be emailed to their preferred email. The PD will give the clinic 70 pamphlets (40 pamphlets in Spanish, 30 pamphlets in English). Patients will be encouraged to discuss any questions or concerns they may have with one of the healthcare providers in the clinic, or they may contact the PD via email or phone (contact information included in pamphlet). Another PDSA cycle will be conducted, and the results will be discussed at their next quarterly clinic meeting. The owner will consider developing a policy for continued use of the HBPAP depending on the results of the next quarterly meeting.

Plan for Dissemination

The results of this DNP project will be formally presented at Kids Kare and Family Kare Clinic in May 2021. Dr. Santoyo, the medical assistants, a pediatric healthcare provider at the clinic, and the owner of the clinic, Dr. Lopez, will attend the presentation. The presentation will include a DNP project poster with the following components: abstract, purpose, background/significance, method, results, discussion, conclusions, and contact information. Each section will be discussed more in detail with the clinic owner and staff during the meeting. The poster will be made available for the clinic to post and disseminate. The DNP project poster will also be disseminated via Zoom for the PD's final defense presentation for the University of Arizona. Another plan for dissemination is through publication, if possible. The PD intends on

submitting this DNP project to journals that might be interested in publishing this type of quality improvement project.

Funding

This DNP project was self-funded. The pamphlets were printed at a nearby Staples for $1.26 per pamphlet. The cashier provided a 25% student discount. Each participant received a $10 token of appreciation, except for one participant who declined the monetary gift.

APPENDIX A:

KIDS KARE PEDIATRICS SITE APPROVAL/THE UNIVERSITY OF ARIZONA

DETERMINATION OF HUMAN SUBJECTS

Kids Kare Pediatrics & Family Kare
7611 W Thomas Rd
Phoenix, AZ 85033

02/05/2021

University of Arizona Institutional Review Board
c/o Office of Human Subjects
1618 E Helen St
Tucson, AZ 85721

Please note that Ms. Marilyn King, Doctor of Nursing Practice student at the University of Arizona, has permission of Kids Kare Pediatrics and Family Kare Clinic to conduct a quality improvement project at our facility for her project, "Holistic Blood Pressure Management Plan in Primary Care."

Ms. King will conduct a survey of adult patients with hypertension, and hypertension risk factors, at Kids Kare and Family Kare Clinic. She will recruit patients in person at the clinic and ask them to participate in the study. Ms. King will provide a description of the project, explain what they will be asked to do, the time involved, and assist them in completing the online survey. Ms. King's activities will be completed by August 31, 2021.

Ms. King has agreed to provide to my office a copy of the University of Arizona Determination before she recruits participants. She will also present aggregate results to the providers at their quarterly staff meeting.

If there are any questions, please contact my office at 602-242-5005.

Signed,

Carlos J. Lopez, MD

Senior Pediatrician, Clinic President

THE UNIVERSITY OF ARIZONA
Research, Discovery & Innovation

Human Subjects Protection Program

1618 E. Helen St.
P.O.Box 245137
Tucson, AZ 85724-5137
Tel: (520) 626-6721
http://rgw.arizona.edu/compliance/home

Date:	March 23, 2021
Principal Investigator:	Marilyn L King
Protocol Number:	2103599335
Protocol Title:	Holistic Blood Pressure Management Plan in Primary Care
Determination:	Human Subjects Review not Required

Documents Reviewed Concurrently:

Data Collection Tools: *Appendix C & D_Pre_Post_Google_Surveys.docx*
HSPP Forms/Correspondence: *Advisor Confirmation Email.pdf*
HSPP Forms/Correspondence: *King-Research Determination Form_Revised_03_09_2021.pdf*
Informed Consent/PHI Forms: *Appendix_B_Disclosure_form_English_Revised.docx*
Informed Consent/PHI Forms: *Spanish_disclosure_form (1).docx*
Other Approvals and Authorizations: *Site_auth_form_Aug_2021.docx*
Recruitment Material: *Recruitment_script.docx*

Regulatory Determinations/Comments:

- Not Research as defined by 45 CFR 46.102(l): As presented, the activities described above do not meet the definition of research cited in the regulations issued by U.S. Department of Health and Human Services which state that "Research means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. Activities that meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program that is considered research for other purposes. For example, some demonstration and service programs may include research activities. For purposes of this part, the following activities are deemed not to be research."

The project listed above does not require oversight by the University of Arizona.

If the nature of the project changes, submit a new determination form to the Human Subjects Protection Program (HSPP) for reassessment. Changes include addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the study activity. Please contact the HSPP to consult on whether the proposed changes need further review.

The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).

APPENDIX B:

CONSENT DOCUMENT (DISCLOSURE FORM – ENGLISH AND SPANISH VERSION)

Using a Holistic Blood Pressure Action Plan to
Improve Hypertension Management – Marilyn King

The purpose of this quality improvement project is to improve self-efficacy and enhance knowledge of hypertension development and its associated risk factors. The quality improvement project will be conducted at Kids Kare and Family Kare Clinic. The educational intervention will be administered to established patients and new patients with a diagnosis of hypertension, diabetes, obesity, high cholesterol, kidney disease, depression, and/or anxiety disorder. The holistic blood pressure action plan will provide an overview of the causes of hypertension and how it affects the body, hypertension risk factors, current blood pressure recommendations and treatment guidelines, and tips on what to do when one's blood pressure is elevated. The goal is to provide patients with education regarding hypertension to improve hypertension screening and management in the family clinic. Ultimately, education can help improve health outcomes and reduce the risk of health complications related to hypertension.

If you choose to participate in the quality improvement project, you will be asked to take a pre-intervention survey. I will assist you with completing the online Google survey. Survey responses will remain anonymous. I will ask the pre-survey questions and enter the responses on my personal tablet. After we have completed the survey, I will review each section of the holistic blood pressure action plan pamphlet and then ask you if you have any questions. We will complete the post-survey questions in the same manner as the pre-survey questions. The whole process should take less than 5 minutes of your time. You will receive $10 cash as a token for your time and participation.

Your participation is voluntary. Refusal to participate will not result in a penalty or loss of benefits to which you are otherwise entitled. Participation, or lack of participation, in the project will not affect the care you receive at Kids Kare and Family Kare Clinic. You may withdraw from the project at any time. You may also skip over questions that you would prefer not to answer within the surveys. You do not give up any personal legal rights as a participant in this project.

For questions, concerns, or complaints about this project, you may contact Marilyn King, MSN, RN, DNP- FNP Student at 480-310-3121 or via email at mlking1@email.arizona.edu

Plan Holístico para la Hipertensión en Atención Primaria de la Salud- Marilyn King

El proposito de este proyecto de qualidad es para mejorar autoeficacia y conocimiento del desarrollo y los riesgos del hipertensión en Kids Kare and Family Kare Clinic. Se va ofreser el folleto educativa a todos los pacientes adultos en la clinica, pero se va enfocar en los pacientes con un diagnosis del hipertensión, diabetes, alto colesterol, enfermedad del riñon, depresion, y ansiedad. El plan holístico para la hipertensión es un folleto que incluye información sobre las causas del hipertensión y como afecta el cuerpo, riesgos para la hipertensión, recomendaciónes actual para el tratamiento de este condición, y consejos sobre cuando recibir atención medica. Mi meta es mejorar el manejo del hipertensión por medio del aprendizaje de la condición y aumento de autoeficacia. Educación puede ayudar reducir complicaciónes de la salud a largo plazo.

Si usted decida participar en el proyecto de qualidad, usted va contestar preguntas sobre el manejo de su salud antes o despuès de su cita con el doctor. Marilyn va grabar las respuestas en una encuesta de Google en su tableta personal. Nadie va poder asociar sus respuestas con su identidad En seguida, Marilyn va repasar la información contenida en el folleto del hipertensión y pregunatarle si tiene preguntas sobre la información presentada. Despues, Marilyn va ser preguntas adicionales sobre su salud y el folleto. El proceso se completara en cinco minutos o menos. Usted va recibir $10 por su tiempo y amabilidad.

Tu participación es voluntaria. Su tratamiento o beneficios en la clinica no seria afectado si usted prefiere no participar en el proyecto. Usted puede retirarse del proyecto en cualquier momento. Usted no esta obligado/a constar todas las preguntas de las encuestas. Sus derechos legales se mantiene intacto en este proyecto.

Si tienes preguntas, preocupaciónes, o quejas sobre este proyecto, puedes contactar Marilyn L. King, MSN, RN, DNP-FNP estudiante 480-310-3121 o por correo electrónico mlking1@email.arizona.edu

APPENDIX C:

RECRUITMENT MATERIAL (RECRUITMENT SCRIPT)

Medical Assistant's (MA's) Recruitment Script

After the patient has checked in for their appointment, the MA will say the following: "Marilyn, one of Dr. Santoyo's students, would like to know if you would be interested in participating in her project, 'Holistic Blood Pressure Management Plan in Primary Care.' It should take about 5 minutes of your time and you will receive $10. Here is a form for you to review if you are interested in participating. Let Marilyn know if you have any questions." The MA speaks Spanish, and she will translate the script in Spanish to Spanish-speaking patients.

APPENDIX D:

EVALUATION INSTRUMENTS (PRE-INTERVENTION SURVEY – ENGLISH AND SPANISH / POST-INTERVENTION SURVEY – ENGLISH AND SPANISH)

Holistic Blood Pressure Action Plan - Pre-Survey (English)

This survey is being conducted as an educational exercise. No one will be able to associate your responses with your identity, and your responses will be used solely for research purposes.

1. How confident do you feel that you can keep the fatigue caused by your disease from interfering with the things you want to do?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

2. Having an illness often means doing different activities and tasks to manage your condition. How confident are you that you can do all the things necessary to manage your condition on a regular basis?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

3. How confident are you that you can judge when changes in your illness mean you should visit your healthcare provider?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

4. How confident are you that can do the different tasks and activities needed to manage your health condition so as to reduce the need to see your healthcare provider?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

5. How confident are you that you can reduce the emotional distress caused by your health condition so that it does not affect your everyday life?

0	1	2	3	4	5	6	7	8	9	10
Not confident at all										Very Confident

6. How confident are you that you can do things other than taking medication to reduce how much your illness affects your everyday life?

0	1	2	3	4	5	6	7	8	9	10
Not confident at all										Very Confident

Holistic Blood Pressure Action Plan - Pre-Survey (Spanish)

Este estudio es un ejercico educativo. Nadie va poder asociar sus respuestas con su identidad.

1. ¿Qué tan seguro(a) se siente usted de poder evitar que la fatigue or cansancio debido a su enfermedad interfiera con las cosas que quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

2. ¿Qué tan seguro(a) se siente usted de poder evitar que las dolencias debido a su enfermedad interfieran con las cosas qu quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

3. ¿Qué tan seguro(a) se siente usted de poder evitar que el estado emocional debido a su enfermedad interfiera con las cosas que quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

4. ¿Qué tan seguro(a) se siente usted de poder evitar que algunos otros sintomas o problemas de saludud que tiene interfieran con las cosas que quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

Holistic Blood Pressure Action Plan - Post-Survey (English)

This survey is being conducted as an educational exercise. No one will be able to associate your responses with your identity, and your responses will be used solely for research purposes.

1. How confident do you feel that you can keep the fatigue caused by your disease from interfering with the things you want to do?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

2. Having an illness often means doing different activities and tasks to manage your condition. How confident are you that you can do all the things necessary to manage your condition on a regular basis?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

3. How confident are you that you can judge when changes in your illness mean you should visit your healthcare provider?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

4. How confident are you that can do the different tasks and activities needed to manage your health condition so as to reduce the need to see your healthcare provider?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

5. How confident are you that you can reduce the emotional distress caused by your health condition so that it does not affect your everyday life?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

6. How confident are you that you can do things other than taking medication to reduce how much your illness affects your everyday life?

   0 1 2 3 4 5 6 7 8 9 10

   Not confident at all Very Confident

7. Do you feel more knowledgeable about hypertension after reviewing the Holistic Blood Pressure Plan?

   Yes No Prefer not to answer

8. Did you find the Holistic Blood Pressure Action Plan helpful?

   Yes No Prefer not to answer

9. Would you recommend the Holistic Blood Pressure Action Plan to your friends/family?

   Yes No Prefer not to answer

10. What is your current age in years?

    0-100

Holistic Blood Pressure Action Plan - Post-Survey (Spanish)

Este estudio es un ejercico educativo. Nadie va poder asociar sus respuestas con su identidad.

1. ¿Qué tan seguro(a) se siente usted de poder evitar que la fatigue or cansancio debido a su enfermedad interfiera con las cosas que quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

2. ¿Qué tan seguro(a) se siente usted de poder evitar que las dolencias debido a su enfermedad interfieran con las cosas qu quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

3. ¿Qué tan seguro(a) se siente usted de poder evitar que el estado emocional debido a su enfermedad interfiera con las cosas que quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

4. ¿Qué tan seguro(a) se siente usted de poder evitar que algunos otros sintomas o problemas de salud que tiene interfieran con las cosas que quiere hacer?

   0 1 2 3 4 5 6 7 8 9 10

   Muy inseguro(a) Muy seguro (a)

5. ¿Apprendió algo de el folleto de la hipertensión?

   Sí No Prefiero no contestar

6. ¿La información contenida en el folleto de la hipertensión le ayudó?

   Sí No Prefiero no contestar

7. ¿Recomienda el folleto de la hipertensión a sus amigos y familiares?

   Sí No Prefiero no contestar

8. ¿Cuál es que dad en aῆos?

   0-100

APPENDIX E:

PARTICIPANT MATERIAL (EDUCATIONAL INTERVENTION / HOLISTIC BLOOD PRESSURE ACTION PLAN – ENGLISH AND SPANISH VERSIONS)

Summary

2017 American College of Cardiology / American Heart Association Guideline

Healthy diet– Eat enough vegetables, fruits, nuts, whole grains, lean vegetable or animal protein, & fish. Reduce trans fat, red meat and processed meats, refined carbohydrates, and sweetened drinks.

Overweight & obese adults need counseling and specific caloric restrictions to help them lose weight to achieve a healthy weight.

Adults need either 150 minutes per week of moderate intensity exercise or 75 minutes of high intensity exercise per week. This type of exercise is necessary to keep your heart healthy.

Take your medications at the same time, everyday, as ordered by the doctor. This will help you control your blood pressure better.

Quit smoking. Let us know if you are having trouble quitting smoking. We can help you.

*** Remove the salt shaker from the dinner table. Use alternative salt-free seasoning for flavor.**

References

American College of Cardiology/American Heart Association, 2017

Mayo Clinic, 2020

American College of Cardiology & American Heart Association Guidelines

Understanding and controlling your blood pressure will help prevent health complications. Nearly half of American adults have high blood pressure and many do not know they have it. The best way to know if your blood pressure is too high is to check it. Get to know your blood pressure numbers and understand what they mean.

BP category	Systolic		Diastolic
Normal	< 120	&	< 80
Elevated	120-129	&	< 80
Hypertension– Stage 1			
Stage 1	130-139	or	80-89
Hypertension– Stage 2			
Stage 2	140 & up	or	90 & up
Hypertensive Crisis			
Emergency	> 180	&/or	> 120

If you have been diagnosed with high blood pressure, or hypertension, the goal is to keep your blood pressure under 130/80, especially if you have diabetes, chronic kidney disease, or if you are older than 75.

The American College of Physicians & American Academy of Family Physicians are more flexible with the blood pressure targets. They recommend most people keep BP under 140/90. If older, under 150/90.

References

American College of Cardiologists/ American Heart Association, 2017

American College of Physicians/ American Academy of Family, Physicians, 2017

Holistic Blood Pressure Action Plan

Marilyn L. King, MSN, RN, DNP-FNP student

Email: mlking1@email.arizona.edu

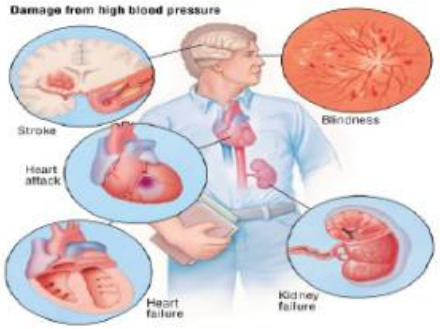
Hypertension

Hypertension *(or* ***high blood pressure****)*: a common condition in which blood vessels & the heart are damaged because of high pressure in the **arteries** (blood vessels that carry blood away from the heart to supply oxygen & nutrients to the body).

- **Primary**—most common type of hypertension. It is a disease that develops overtime.
- **Secondary**– Other health issues & medications can cause hypertension (obstructive sleep apnea, kidney and thyroid problems, and over-the-counter medicines like cold and decongestant drugs).

Your heart pumps more blood as your blood pressure becomes higher. This causes your arteries to become narrower overtime.

The long-term force of blood against the arterial walls can eventually lead to health problems like ***heart disease, kidney failure, stroke, and blindness.***



The Silent Killer

- Damage to your blood vessels and heart may occur without any symptoms. You can have ***high blood pressure for many years without symptoms***. Uncontrolled hypertension can lead to irreversible damage to different body organs, like your heart, brain, kidneys, and eyes.

Risk factors :

- ***Family history***- hypertension, heart attack, stroke, diabetes, high cholesterol
- ***Age/gender*** -men are more likely to have high blood pressure until the age of 64, then women are more susceptible.
- ***Race*** -African Americans develop hypertension more than any other race/ethnicity, while Hispanics are less likely to take medication to control their blood pressure.
- ***Lifestyle***- lack of exercise, unhealthy diet (high salt), overweight/ obesity, smoking, excessive alcohol use, and excessive stress.
- ***Other health conditions***- sleep apnea, high cholesterol, diabetes

Current Treatment Guidelines & Recommendations

Normal BP– Healthy diet, weight loss (if needed), physical activity, quit smoking, & moderate alcohol consumption.

Elevated BP– weight loss, **heart-healthy diet**– low salt, potassium supplementation, exercise, & limited alcohol intake (women– 1 drink/ day, men– 2 drinks/day).

Stage 1 hypertension– Your ten year risk of having heart and blood vessel complications is calculated to determine your chance of having a heart attack or stroke. If your score is less than 10%, you should start lifestyle changes & see your doctor in 3-6 mos. If your heart risk is more than 10%, you will need to start taking either a water pill or BP pill that that helps relax your veins and arteries. Angiotensin-converting (ACE) inhibitors block narrowing of the blood vessels, so the heart does not have to work so hard. These are **class I medications**. Also start lifestyle changes. See your doctor in 1 month.

Call 911:

- ***Blood pressure is higher or equal to 180/120*** (this means the systolic blood pressure, or top number is higher than or = to 180 ***AND/OR*** the diastolic blood pressure/bottom number is = to or higher than 120)

AND

- You have *chest pain, shortness of breath, back pain, numbness/tingling, change in vision, or speech problems.*
- This is a hypertensive crisis & you need to be seen immediately. A delay in seeking medical treatment can result in heart attack, stroke, and kidney damage.

Call doctor/PCP: If your ***blood pressure is 180/120, with no symptoms, recheck your blood pressure in five minutes.*** If your blood pressure is less than 180/120 at that time, contact your doctor and monitor your blood pressure. If you have discussed taking medication to reduce your blood pressure as needed, take it, & recheck your blood pressure in about 30-60 min. Discuss with your doctor if you need to take medication before going to the ER or calling 911. Develop an action plan with your doctor.

Stage 2 hypertension - Start **class I medications** & lifestyle changes. You may need more than one medication of different classes if your blood pressure is too high. Visit your doctor in 1 month. Discuss with your doctor what your preferred blood pressure range is, so your blood pressure does not become too high or too low. Keep a BP log to monitor for any trends. Check your BP if you have symptoms.

Referrals & Community Resources: Don't hesitate to reach out to your doctor if you are feeling overwhelmed, depressed, &/or stressed. Make an appointment , so you can discuss the best treatment plan for you. If you're unable to reach anyone in the office, leave a message. You may also call **Nurses On-Call, a free Nurse Hotline— available 24/7** with any immediate health questions or concerns **(816) 276– 6405.**

El Sumario

2017 Colegio Americano de Cardiologos / Asociación Americana del Corazon

Dieta saludable– Comer suficiente verduras, fruta, nueces, grano entero, proteina magra (carne y pescado). Reduce grasas trans, carne roja, carne procesada, carbohidrato refinada, y bebidas dulces.

Gente con sobrepeso o obesidad necisitan restricciones de calorias para poder vajar de peso y mantener un peso saludable. Habla con su doctor sobre la cantidad.

Ejercicio para Adultos para mantener el corazon saludable:

150 minutos cada semana de ejercicio de intensidad moderado o

75 minutos cada semana de ejercico de alta intensidad

Toma su medicinas todos los dias, al mismo tiempo. Como fue prescribidio por el doctor. Esto va ayudar controlar su presion mejor.

Deja de fumar. Le ayudamos si necista ayuda.

***Quita el salero de la mesa. Usar sazon sin sal par sabor.**

Www.heart.org para más información sobre dieta y estilo de vida.

Facebook Hypertension Awareness Group para información y apoyo.

2017 Colegio Americano de Cardiologos / Asociación Americana del Corazon

Conocimiento y control del presion arterial le va ayudar reducir el riesgo de complicaciónes de salud. Aproximadamente 50% de adultos Americanos tienen la presión arterial alta, y no lo saben. La mejor manera de saber si la presión esta alta es fijarse la presión arterial.

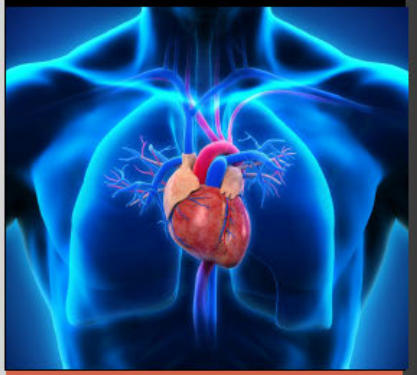
Categoria	Sistólica	Diastólica
Normal	< 120	& < 80
Elevada	120-129	& < 80
Hipertensión	130-139	o 80-89
*Etapa 1		
Hipertensión	140 & <	o 90 & <
**Etapa 2		
Emergencia		
Hipertensiva-	= /> 180	&/o =/> 120

Meta de presion arterial: Menos de 130/80 si tienes hipertensión, diabetes, enfermedad de riñon, o tienes mas de 75 añjos de edad.

El Colegio Americano de Médicos y Academia Americana de Médicos de Familia son mas flexibles con sus recomendaciónes para la presion arterial. La majorida de la gente pueden mantener la presión menos de 140/90. La gente mas de edad pueden tener la presión menos de 150/90.

Referencias
Academia Americana de Médicos de Familia, 2017
Asociación Americana del Corazón, 2020/2017
Colegio Americano de Cardiologos, 2017
Colegio Americano de Médicos, 2017
Mayo Clinic , 2020

Plan Holístico para la Hipertensión en Atención Primaria de la Salud



Marilyn L. King, MSN, RN, DNP/FNP estudiante

Correo electrónico:
mlking1@email.arizona.edu

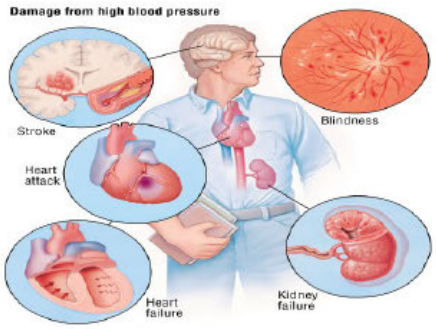
Hipertensión

***Hipertensión** (o **presión arterial elevada**):* una condición común en donde los vasos sanguineos y el corazón estan dañadas por presión elevado en las arterias (vasos sanguineos que lleva sangre con oxígeno y nutrientes al cuerpo)

- **Primario**—tipo mas común del hipertensión. Es una enfermedad que se desarrolle con el tiempo.
- **Secondario**– Otras condiciónes y medicamentos pueden causar la hipertensión (apnea obstructive del sueño, problemas del riñon y tirode, y medicinas de venta libre como descongestionantes y medicina para resfriado).

Cuando la presion arterial suve, el corazón bombea mas sangre. Esto resulta en arterias mas angosto y estrecho con el tiempo.

Finalmente, el daño a los paredes de las arterias pueden causar ***enfermedades del corazon, insuficiencia renal, ataque cerebral, y ceguera.***



El Matador Silencioso

- Daño a los vasos sanguineos y corazón puede ocurrir sin sintomas. Uno puede tener ***alta presión por muchos años sin tener sintomas.*** La presión arterial discontrolada puede resultar en daño irreversible a organos del cuerpo como el corazón, el cerebro, los riñones, y los ojos.

Factores de Riesgo:

- ***Historia familiar***- hipertensión, ataque al corazón, infarcto cerebral, diabetes, alto colesterol
- ***Edadad/el sexo***– Hipertensión es mas común en hombres hasta el edad de 64, despues las mujeres son mas susceptibles.
- ***Raza***- Afroamericanos- la raza mas afectada con hipertensión Hispanos– la raza que menos toma sus medicamentos para la presión arterial.
- ***Estilo de vida***– poco o no ejercicio, dieta poco sano (mucha sal), sobrepeso/obesidad, fumar, tomar mucho alcohol, & mucho estrés.
- ***Otras condiciónes***- apnea del sueno, alto cholesterol, diabetes

Recomendaciones para Tratamiento del Presión Arterial

Presión Normal – Dieta saludable, perdida de peso (si es necesario), ejercicio, dejar de fumar, & alcohol en moderación.

Presión elevado– Perdida de peso, dieta corazón saludable (baja sal, supplemento potasio), ejercicio, y alcohol limitado (mujeres– 1 bebida/ dia, hombres– 2 bebidas/dia).

Etapa 1 hipertensión– Su riesgo de tener complicaciónes del corazón y los vaso sanguineos en un periodo de 10 años es calculado. Menos de 10%, se recomienda cambios de estilo de vida y ver el doctor en 3-6 meses. Mas de 10%, initiar medicamentos como diurético/pastilla para "sacar agua" de mas y/o inhibidores de conversión de angiotensina (ICA) para relajar las vena y arterias. El corazón no batalla tanto con tomar el ICA. Son clase I medicamentos. Haga cambios de estilo de vida tambien. Programa una cita con el doctor en un mes.

Llame 911:

- ***Si la presión arterial es 180/120 o mas*** **(el sistólico/numero de arriba es 180 o mas y/o el numero diastólico/ el numero debajo es 120 o mas)**

Y

- **Tiene dolor de pecho, dificultad para respirar, dolor de espalda, hormigeo/entunemecimiento, cambios en la vision, o problems de hablar**
- **Es un crisis hipertensivo y necisita attention medica de inmediato. Una demorada puede resultar en ataque al corazón o cerebro y daño al riñon.**

Llame al doctor: Si la presión esta 180/120 o mas, sin sintomas, fijase la presion otra vez in 5 minutos. Si es menos de 180/120, llame al doctor y monitora su presión. Si a tenido discusión con su doctor sobre cual medicina tomar cuando esta muy elevado la presion, tomala y fijase la presion in 30-60 minutos. Habla con su doctor si necesita tomar una pastilla antes de llamar 911 or ir al hospital. Formaliza un plan de acción con su doctor.

Etapa 2 hipertensión - Empezar **class I medicamentos y cambios de estilo de vida.** Es possible que va necesitar mas de una medicina de diferentes clases para control la presión arterial. Visite su doctor en un mes. Habla con su doctor sobre su preferido rango de su presión para tratar de prevenir fluctuaciones. Fijarse la presión regularmente y cuando tiene sintomas es muy importante.

Referencias y Recursos de la Comunidad: Llamanos si usted se siente muy estrésado/a, triste, o mal de cualquier forma. Haga una cita con su doctor par discutir su plan de tratamiento. Deja un mensaje si no hay nadie disponible en oficina. Puede llamar **Nurses On-Call, una liña de enfermera,** para preguntas o precupaciones de salud de inmediato. Estan disponibles **24/7** en **(816) 276– 6405.**

APPENDIX F:

PROJECT TIMELINE

Completion Date	Planning	Pre-Implementation	Implementation	Evaluation
07/20/2020-07/24/2020	Meet with key stakeholders individually to obtain support			
07/27/2020	First meeting to review HBPAP and obtain feedback			
02/25/2020		Submit IRB application		
04/23/2021	Second meeting to discuss the roll-out date (upon IRB approval)			
03/29/2021-04/02/2021				Implementation-HBPAP education intervention for one week (Monday, through Friday); pre-and-post-survey
04/14/2021-04/19/2021	Data analysis on Stata			
04/20/2021-05/13/2021		Provide write up of results and disseminate		

APPENDIX G:

LITERATURE REVIEW GRID

Project Question: At Kids Kare and Family Kare Clinic, does a bilingual educational intervention for patients with a diagnosis of hypertension about hypertension and using a holistic blood pressure action plan (HBPAP) improve their knowledge and their self-efficacy about adopting a hypertension management plan?

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
Bennett, A., Parto, P., & Krim, S.R. (2016).	Hypertension and ethnicity Ascertain impact of race/ethnicity on hypertension prevalence, awareness, and control.	Literature review	**Sample/Setting:** Non-Hispanic whites (NWH), Blacks, Hispanics, and Asians with hypertension in the U.S.	**Data Collection** Data obtained from the National Health and Nutritional Examination Survey (NHANES) and Systolic Blood Pressure Intervention Trial (SPRINT)	NHANES- Despite racial disparities seen in blood pressure call in various races (NHW- 48.6%, Blacks- 43%, & Mexican Americans 35.5%), Mexican Americans have an increased for developing HTN and its cardiovascular-related complications. This has been attributed to a recent, rapid growth in the Hispanic population in the U.S. SPRINT- The highest rates of medication adherence and adequate BP control were seen in African American men on diuretic therapy with multiple comorbidities. There is a great deal of variation in terms of HTN knowledge, access to treatment, impact of failed treatment, and cultural distinction within the U.S. General guidelines for HTN do not consider the impact of ethnicity/race on HTN as it should.

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
					Hypertension knowledge and treatment were highest in Blacks, compared to NWH. Access to health insurance is essential to successful HTN in Hispanic populations.
Bosworth, H.B., Olsen, M.K., Neary, A., Orr, M., Grubber, J., Svetkey, L., Adams, M., & Oddone, E.Z. (2008)	Take control of your blood pressure (TYCB) study: A multifactorial tailored behavioral and educational intervention for achieving blood pressure control Determine the effectiveness of a nurse-led behavioral/educational intervention in improving medication adherence in adults with hypertension. Nurses provided telephonic counseling.	Randomized controlled trial	**Sample/Setting:** N= 319 Intervention group Average age = 60.5 years old 47% African American Patients were selected from two primary care clinics in the Southeastern U.S. Participant recruitment was based on ICD-9 coding of HTN and antihypertensive medication use at the baseline visit. N= 317 Usual care	**Data Collection:** Baseline blood pressure and medication adherence information were obtained at baseline and then 4 times during a 6- month period. Participants receive a call from a nurse bimonthly. Each encounter provided an opportunity to discuss disease knowledge, perceived risk of complications, medication adherence and side effects, health behaviors (e.g., smoking, weight loss, diet, exercise, alcohol use, and stress), and social support. Participants were followed for 24 months **Data Analysis:** Self-rated medication adherence assessed using a four-item Morisky Self-Reported Medication-Taking Scale	From baseline to six months, medication adherence increased by 9% in the intervention group versus 1% in the control group. In addition, there was a 96% retention rate in the for the first 6 months and 93% at 12 months. The average phone call lasted about 18 minutes. The intervention can be implemented easily and allows for a tailored needs assessment, thereby promoting high quality, patient-centered care.

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
Breauz-Shropshire, T.L., Brown, K.C., Pryor, E.R., & Maples, E.H. (2012)	Relationship of blood pressure monitoring, medication adherence, self-efficacy, stage of change, and blood pressure control among municipal workers with hypertension Determine the correlation between medication adherence, self-efficacy, stage of change, and blood pressure monitoring on blood pressure control in hypertensive municipal workers.	Cross-sectional, Correlational	**Sample/Setting:** N= 149 Municipal employees with access to health insurance Occupational health	**Data Collection:** Modified version of the Behavioral Risk Factor Surveillance Survey to measure self-monitoring of blood pressure, the individual's report of using a blood pressure device to measure personal blood pressure outside of healthcare provider's office. Stage of Change 4-item Questionnaire 8-item Morisky Medication Adherence Scale- individual self-report of compliance of taking blood pressure medication at least 80% of the time **Data Analysis:** Bivariate correlations for medication adherence, years diagnosed with hypertension, and medication adherence.	Most of the participants were married, Black, and male, with an average age of 47 years old. More than 1/3 of the participants had been diagnosed with hypertension less than a year prior and about 50% were prescribed more than one antihypertensive medication. Moderate adherence and self-efficacy scores were reported. Many of the participants with uncontrolled hypertension had high medication adherence scores. Medication adherence was positively correlated with self-efficacy. Age was also found to be positively correlated with medication adherence and self-efficacy. Number of years with hypertension was not associated with medication adherence or self-efficacy, however. This finding may have been influenced by the characteristics of this particular sample, however. Stage of change was the most significant independent predictor for

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
					blood pressure monitoring. Stage of change, medication adherence, and medication adherence self-efficacy did not predict blood pressure control. A strong correlation was found between medication adherence, self-efficacy, and medication adherence. Sample size may have been too small and homogenous to detect any significant correlations between blood pressure monitoring, medication adherence, self-efficacy, stage of change, and blood pressure control. Self-efficacy was measured in terms of medication adherence, which is one component of chronic condition self-efficacy. While stage of change was an important predictor of blood pressure monitoring, self-efficacy, and medication adherence were not in that they did not significantly affect blood pressure. This suggests other factors playing a bigger role in blood pressure control,

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
					factors other than medications or one's confidence in their ability to take their medication. Pharmacotherapy may not always be effective and its ineffectiveness could be indicative of resistant hypertension.
Divens, L.L., & Chatmon, B.N. (2019).	Cardiovascular Disease Management in Minority Women: Special Considerations. Increase HTN awareness and evaluate strategies to improve cardiovascular disease management in minority women.	Literature review	**Sample/Setting:** Minority women, African American with HTN and diabetes in the U.S.	**Data Collection/ Analysis:** Data obtained from Multi-Ethnic Study of Atherosclerosis (MESA) conducted by the National Heart, Lung, and Blood Institute and the African American Collaborative Obesity Research Network (AACORN)	Women over the age of 65 have a higher risk of having HTN, compared to their male counterparts. Black women have the highest prevalence of HTN due to the interaction of various risk factors, such as hyperlipidemia, obesity, physical inactivity, & co-morbidities such as diabetes mellitus. Approximately 82% of African American women over the age of 20 are overweight or obese. Black women have been identified as the least active female population, compared to their Caucasian and Hispanic counterparts. Moreover, they are less likely to engage in health interventions that reduce their cardiovascular risk, such as dietary

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
					interventions (low salt, low fat diet), exercise regimens, and medication adherence.
Ferdinand, K.C. & Nasser, S.A. (2017).	Management of Essential Hypertension Review of evidence based HTN treatment guidelines for high-risk populations.	Literature review	**Sample/Setting:** African Americans (AA), Non-Hispanic Asians, Non-Hispanic Whites, and Hispanics in the U.S.	**Data Collection:** Antihypertensive and lipid lowering treatment to prevent heart attack trial (ALLHAT Trial) Systolic Blood Pressure Intervention Trial (SPRINT Trial) conducted by the National Institute of Health	ALLHAT- After initiation of lifestyle changes, especially diet and exercise, most evidence-based guidelines suggest diuretics, calcium antagonists, ACEis or ARBs as first-line pharmacotherapeutic agents. The results of their research showed that Chlorthalidone was the most effective initial therapy in high-risk patients, particularly in African American individuals. Ultimately, these individuals had lower rates of combine coronary heart disease (CHD), combined cardiovascular disease (CVD), stroke, and heart failure (HF) after taking Chlorthalidone. Long-term use of ACEis in African Americans can result in an increased risk for angioedema. SPRINT- The investigators found that intensive arm (SBP up to 121.5 mm HG) compared

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
					to standard arm (up to 134.6 mm Hg) experienced reduced rates of cardiovascular -related complications, including myocardial infarction (MI), acute coronary syndrome (ACS), stroke, HF, and death. 38% were African American and other minorities, 30% were 75 years old and older, and 20% had a history of CVD. Health-related racial disparities are multifactorial. HF, ESRD, CAD, and stroke affect African Americans more aggressively, which requires more intensive intervention. Proper pharmacologic interventions in conjunction with home BP monitoring, and lifestyle changes will help reduce uncontrolled HTN.
Fowler, BA. (2015).	Obesity in African American women- The time bomb is ticking: An urgent call for change. Explore the various social determinants of health influencing the obesity	Literature Review	**Sample/Setting:** African American women in the U.S.	**Data Collection:** Hospitalizations, work productivity, medical/pharmacy costs, lost wages, socio-cultural context of eating, emotional eating, food preferences, socioeconomic status,	African American women are considered a 'ticking time bomb' due to the obesity crisis and increased rates of chronic diseases such as stroke, HTN, type 2 diabetes mellitus (T2DM), and several forms of cancer,

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
	pandemic in African American females.			residential segregation, health literacy, food availability, food desserts, physical activity, and popular culture representation of black females.	compared to Caucasian counterparts. African American women have high medical costs from hospitalizations, more of a need for medical benefits and pharmacy assistance, have decreased work productivity, more lost wages, and are more likely to spend more time away from their families, compared to White women. A larger weight status is more likely to be accepted, African American women are more likely to engage in emotional eating and eat high fat, high calorie, sugary, and sodium-laden food items. The combination of poverty, residential segregation, health literacy level, fast food convenience and food desserts, physical inactivity, and mixed messaged regarding acceptance of obesity in racial and ethnic minorities in popular culture are contributing to the obesity crisis.

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
Hicks, L.S., Shaykevich, Bates, D.W., & Ayanian, J.Z. (2005).	Determinants of racial/ethnic differences in blood pressure among hypertensive patients Determine whether or not racial/ethnic minorities receive less aggressive treatment for HTN.	Retrospective cohort/observational study	**Sample/Setting:** N= 1,205 Patients had a minimum of two HTN-related outpatient visits in one of twelve general medicine clinics in a community health center in Brigham, Utah.	**Data Collection/ Analysis:** The following information was extracted from the electronic medical record (EMR): Patient race/ethnicity, name of the primary care provider, patient age at time of initial visit, primary insurer at initial visit, comorbidities such as diabetes, HCF, CAD, or renal failure, blood pressure control (< 130/85 for diabetics/renal failure & < 140/90 for all others), or changes in antihypertensive drug therapy. Logistic regression	81.9% of African Americans and 80.3% of Caucasians were more likely than Hispanics to receive antihypertensive therapy intensification. There were no racial differences in therapy intensification after adjustments were made for outpatient visits and diabetes. Therapy intensification was related to frequency of clinic visits and prevalence of diabetes in this population. Physician knowledge in pharmacologically treating with appropriate intensity at the right time and not waiting to for multiple visits to make these types of adjustments was noted.
Hunte, H., Mentz, G., House, J.S., Schulz, A.J., Williams, D.R., Elliott, M.R., Morenoff, J.D., & White-Perkins, D.M. (2012).	Variations in hypertension-related outcomes among blacks, whites, and Hispanics in two large urban areas in the United States Sought to ascertain to what degree hypertension prevalence, awareness, treatment and control varied in different races and ethnic minority groups in two Midwestern	Retrospective cohort/observational study	**Sample/Setting:** N= 2,497 adults > or = 25 years old N= 802 Hispanics N= 1240 Non-Hispanic African American N= 983 Non-Hispanic Caucasian Chicago, Illinois	**Data Collection:** Data extracted from Chicago Community Adult Health Study (CCAHS) from 2001-2003 **Data Analysis:** Percentages Bivariate analyses of age, sex, education, and income distribution of the U.S. population-Population Survey Annual Demographic File (CPS)	African Americans, Hispanic, and Caucasian residents of Chicago and Detroit had increased HTN prevalence, with decreased HTN awareness, treatment and control (except HTN control rates in Mexicans and African Americans in Detroit who were treated for HTN) in comparison to their U.S. counterparts. The racial/ethnic disparities were more

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
	cities, compared to the general U.S. population.		Detroit, Michigan		apparent in Detroit, where the rate of HTN in Mexicans was double the national U.S. average of Mexicans with HTN. There was not much of a difference in hypertension prevalence in African Americans in Detroit compared to the U.S., but the level of treatment was significantly reduced compared to their national counterparts (53.7%). Caucasians in Detroit had a higher prevalence of HTN, with reduced knowledge, treatment, and control than Caucasians nationally. The difference in HTN treatment in Caucasians in Detroit was an estimated 30 percentage points lower than Caucasians from the general population.
Johnson, H.M., Warner, R.C., LaMantia, J.M., & Bowers, B.J. (2016).	"I have to live like I'm old." Young adults' perspectives on managing hypertension: a multicenter qualitative study Explore the perspective of chronic disease management in younger adults to help improve hypertension control and	Multi-center Qualitative	**Sample/Setting:** N= 38 Young Adults (18-39 years old) with a diagnosis of HTN and regular primary care access in three Midwestern Family Clinics (academic, rural, urban)	**Data Collection:** Two focus groups: one per age range (18-29, 30-39 years old) **Data Analysis:** Thematic analysis: Conventional content analysis was used to explore young adults' perception of having a	Thematic analysis revealed participant surprise and anger, as they expected to have this type of ailment at an older age. A diagnosis of hypertension altered their "young" identity and made them feel much "older" than their peers. Moreover, this population missed blood pressure

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	the delivery of cardiovascular preventative care.			chronic disease such as hypertension.	follow up visits quite frequently due to co-payments, lack of transportation, and long office wait time for short visits. Many young adults were opposed to social media or text messaging to support disease management because they were fearful of their peers seeing communication related to their condition. The majority of the participants were African American males.
Johnson, H.M., Warner, R.C., Bartels, C.M., & LaMantia, J.N. (2017).	"They're younger…it's harder." Primary care providers' perspective on hypertension management in young adults: a multicenter qualitative study Understanding the barriers primary care providers face in terms of diagnosing, treating, and managing hypertension in younger adults with primary care access.	Multi-center Qualitative	**Sample/Setting:** N= 15 providers (MD, DO, NPs) N= 11 Physicians, N= 4 NPs at 3 Family Medicine/Family Practice clinics in Wisconsin, including an academic community clinic, urban clinic, and a rural clinic. Sample size determined on basis of thematic saturation.	**Data Collection:** Semi-structured interviews One-on-one 60-minute interviews **Data Analysis:** Content analysis	Primary care providers feel there are unique barriers that arise when caring for young adults due to potential for patient altered self-identity, greater blood pressure variability, side effects associated with medication initiation, and missed follow up appointments. Essentially, these barriers prevent adequate blood pressure control in this particular population. Devising methods that enhance self-management skills are integral in improving hypertension management

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
					and fostering a "healthy identity."
Kendrick, Nuccio, E., Leiferman, J.A., & Sauai, A. (2015).	Primary care providers perceptions of racial/ethnic and socioeconomic disparities in hypertension control Examine attitudes and perceptions exhibited by primary care providers (PCPs) as they relate to racial/ethnic and socioeconomic disparities in hypertension management.	Multi-center Qualitative	**Sample/Setting:** N= 115 PCPs (internal medicine and family medicine physicians, NPs, and Pas) from 2 large academic centers in Colorado.	**Data Collection:** 24-item online survey modeled on an instrument developed by the authors to assess cardiologists' perspective concerning racial/ethnic disparities. They also incorporated a modified instrument to assess primary care physicians' viewpoint regarding racial disparities in diabetes care. **Data Analysis:** 5-point Likert scales were used to determine PCP's perception of racial/ethnic disparities & to assess responses regarding the quality of HTN care based on race/ethnicity	Most of the respondents were female (66%), non-Hispanic White (80%) and supported data collection on the patients' race/ethnicity and economic status to better understand their impact on quality of care. 86% of the respondents concurred that racial/ethnic disparities exist in the U.S. health system, but only 33% and 44% felt that these specific disparities affected the care of their own patients. Most of the providers supported interventions, such as enhancing provider communication skills (87%) and cultural competency training (89%) to help reduce existing racial/ethnic disparities and promote equitable care.
Kressin, N.R., Elwy, A.R., Glickman, M., Borzecki, A.M., Katz, L.A., Cortes, Cohn, E.S., Barker, A., & Bokhour, B.G. (2019).	Beyond medication adherence: The role of patients' beliefs and life context in blood pressure control Determine the role of patients' sociodemographics,	Cross-sectional telephonic survey	**Sample/Setting:** N= 103 (93 completed data) Diverse sample of Primary care clinic patients with HTN N= 43 Caucasian	**Data Collection:** Telephonic survey administered by research assistant. The survey included close-ended items such that assessed sociodemographics (including race/ethnicity),	This study examined patients' BP-related beliefs and various aspects of life context influencing BP control. There was an increased prevalence of uncontrolled BP, despite numerous interventions that address medication

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
	medication adherence to blood pressure medications, and health beliefs in HTN management		N= 40 African American N= 20 Hispanic	medication adherence, beliefs, and life context. **Data Analysis:** Logistic Regression models including sociodemographics, medication adherence, and either beliefs or context to predict BP control.	adherence. They did not find any significant associations between blood pressure control and sociodemographics, medication adherence, BP-related health beliefs, and life context. The authors suggest that clinicians should focus on health beliefs as potentially the most effective means of achieving blood pressure control.
Legido-Quigley, H., Camacho Lopez, P.A., Balanova, D., Perel, P., Lopez-Amarillo, P., Nieuwiaat, R., Schwalm, J,m McCready, T., Yusuf, S., & McKee, M. (2015).	Patients' knowledge, attitudes, behaviour and health care experiences on the prevention, detection, management and control of hypertension in Colombia: A qualitative study. Explore hypertensive patients' knowledge, attitudes, behaviors, and experiences with their chronic condition.	Qualitative	**Sample/Setting:** N= 26 Adults who have a diagnosis of HTN or have suspected HTN in rural and urban regions in Colombia. N= 4 Family members	**Data Collection:** Semi structured interviews and focused group discussions **Data Analysis:** Thematic analysis performed until thematic saturation reached.	Themes that emerged included patients wanting more information regarding their chronic condition, a better understanding of their medication regimen, and a desire to develop a trusting relationship with their provider. Barriers identified in the study included treatment access, co-payments, high cost of medications, transportation, and poor access to specialists. Patients found that social support from family, neighbors, and social networks were integral in overcoming these barriers.

Pub. Year; Authors' Last Name	Title/Purpose of Publication	Study Design	Sample and Setting	Methods for Data Collection and Data Analysis	Findings/Link to Project
Lubelo, A.M., Mapatano, M.A., Mutombo, P.B., Mafuta, E.M., Samba, G., Coppieters, Y. (2017).	Prevalence and determinants of use of complementary and alternative medicine by hypertensive patients attending primary care facilities in Kinshasa, Democratic Republic of the Congo: a cross-sectional study Ascertain the prevalence of complementary and alternative medicine use and patients' perspective regarding its use in the management of hypertension.	Cross-sectional	**Sample/Setting:** N= 280 Hypertensive adults > 18 years old in Kinasha Primary Health Care (KPHC) facilities	**Data Collection:** Face-to-face structured interview questionnaire **Data Analysis:** Logistic regression analysis identified determinants of the use of complementary and alternative medicine.	There was a high prevalence of complementary and alternative medicine (CAM) use in this particular study (26.1%), with significant misconceptions about the curability of hypertension with the use of aforementioned treatment modalities. In addition, there were misconceptions about the side effects associated with pharmacologic antihypertensive treatment. Namely, that there were more side effects than were actually reported. Religious affiliation and duration of hypertension were correlated with incorrect assumptions about the curability of the disease. Spiritual and religious beliefs can significantly influence health behaviors to the degree that individuals reported the ability to 'cure' their disease with faith. This false idea of the curability of the disease has resulted in increased use of CAM. The use of CAM, in place of

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					antihypertensives, can potentially be harmful. It is imperative to educate patients that most individuals experience minimal side effects with antihypertensive medication use. However, it could be beneficial if used in conjunction with pharmacologic interventions. Typically, the benefits outweigh the risks in terms of cardiovascular effects and overall quality of life.
Odusola, A.O., Stronks, K., Hendricks, M.E., Schultz, C., Akande, T., Osibogun, A., van Weert, H., & Haafkens, J.A. (2016).	Enablers and barriers for implementing high-quality hypertension care in a rural primary care setting in Nigeria: perspectives of primary care staff and health insurance managers Explore the perspectives of primacy care providers (PCPs) and health care managers (HCMs) on the facilitators and barriers for implementing high-quality HTN care in a community-based health center in Nigeria.	Qualitative	**Sample/Setting:** N= 11 Primary care staff N=4 Health insurance managers A community-based health center in rural Nigeria.	**Data Collection:** Semi structured individual interviews with PCPs and HCMs **Data Analysis:** MAX Qualitative Data Analysis (MAXQDA) to support content analysis, processing, ordering, and comparison of the data.	Both groups believed that health insurance was an important facilitator for the implementation of high-quality care because it covers various costs health care costs for patients, and also provides integral resources for clinics, including access to clinical guidelines and staff training. Barriers to the delivery of high-quality care include high workload, administrative challenges at facilities, disagreement between PCPs and insurers regarding what is covered, and a gap between guideline

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					recommendations and what is available for patient education in their region. These challenges were met with task-shifting, appropriate provider payment benchmarking, good provider-patient relationships, automated administration systems, & individualizing patient care.
Salim, H., Lee, P.Y., Sazlina, S.G., Ching, S.M., Mawardi, M., Shamsuddin, N.H., Ali, H., Adibah, H.I., & Tan, H.C. (2019).	The self-care profiles and its determinants among adults with hypertension in primary care clinics in Selagor, Malaysia. Determine to what degree self-care is influenced by demographics and family history of hypertension.	Cross-sectional	**Sample/Setting:** N= 720 Adults over the age 18 with a diagnosis of hypertension for at least 6 months. Three public primary care clinics in Selagor, Malaysia.	**Data Collection:** Systematic random sampling with sampling intervals of 2. Study instrument included sociodemographic information, medical information, weight and height (for BMI), family history of hypertension, and other medical problems. **Data Analysis:** Multiple linear regression model SPSS- Descriptive statistics used to depict demographics and disease characteristics. Percentages and frequencies were used for categorical variables and mean and standard	More than half of the participants were women (52.5%) and most were Malays (44%), with an average age of 59.5. 84.2% had secondary or primary level of education and 30.7% had a family history of hypertension. The mean total HTN-SCP (self-care profile) score was 124.2/180. Significant determinants that influenced the HTN-SCP score included being male, having a Chinese ethnicity, primary level of education/no formal education level, secondary education level, and a family history of hypertension. Males of a Chinese background with

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				deviations were calculated for the continuous variables. T-test, ANOVA	a lower education level are more likely to have a lower self-care score than a Malayan female with a higher education level. Certain cultures and genders may be more willing than others to engage in self-care and proper management of their chronic condition.
Zhao, B., Jose, P.O., Pu, J., Chung, S., Ancheta, I.B., Fortmann, S.P., & Palaniappan. (2015).	Racial/ethnic differences in hypertension prevalence, treatment, and control for outpatients in Northern California Ascertain the prevalence, treatment, and control of hypertension in Asian Americans and Hispanics in Northern California.	Three-year, Cross-sectional	**Sample/Setting:** N= 208,985 total N= 112,379 Women N= 96,606 Men Non-Hispanic White, Asian Indian, Chinese, Filipino, Japanese, Korean, Mexican, Non-Hispanic Black at Palo Alto Medical Foundation in Northern California	**Data Collection:** Data extraction from the EHR with the following characteristics: race/ethnicity, age in 2010, primary insurance (preferred provider organization, health maintenance organization, and other), and self-reported smoking status. Weight and height obtained to calculate BMI. ICD-9 coding for HTN (401.X). Other clinical characteristics were reviewed such as CVD, stroke, PVD, abnormal lab values (fasting blood glucose, hemoglobin A1C), CKD, two low estimated GFRs, abnormal lipids. **Data Analysis:** Logistic regression models based on patient race/ethnicity, age, BMI,	Hypertension prevalence ranged from 30% in Chinese women to 59.5% in Filipino men. Most minority subgroups had lower or similar odds of having HTN compared with NHW, with the exception of Filipinos and NHB whose odds significantly increased after adjusting for patient demographic and clinical characteristics. Asian Americans and NHB were more likely to be treated for HTN in comparison to NHWs. Filipino women and NHB men had the lowest rates of blood pressure control. There is a great deal of variation in HTN prevalence, treatment, and control in different racial/ethnic minorities. Filipino and NHB men and women are especially prone to

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				smoking history, history of type 2 diabetes, dyslipidemia, and chronic kidney disease.	developing HTN and experiencing difficulty managing their blood pressure.

Abbreviations: BMI- Body mass index, CAM- Complementary and Alternative Medicine, CKD- Chronic Kidney Disease, CVD- Cardiovascular Disease, EHR- Electronic Health Record, GFR- Glomerular Filtration Rate, HCM- Health Care Manager, HTN- Hypertension, NWB- Non-White Black, NWH- Non-White Hispanic, PCP- Primary Care Provider

APPENDIX H:

DNP PROJECT POSTER

THE UNIVERSITY OF ARIZONA College of Nursing

Holistic Blood Pressure Management Plan in Primary Care

Marilyn L. King, MSN, RN, DNP FNP Student; Allen Prettyman, PhD, RN, FNP-BC, FAANP, FNAP; Pamela G. Reed, PhD, RN, FAAN; Evangeline M. Ortiz- Dowling, PhD, MSN-Ed., RN

Abstract

Purpose: Demonstrate the usefulness of implementing a bilingual educational module for patients with hypertension on improving hypertension knowledge, self-efficacy, and self-management at a predominately Spanish Speaking primary care clinic in Phoenix, Arizona.

Background: Uncontrolled hypertension is one of the leading causes of death and disability worldwide. Approximately half of individuals diagnosed with hypertension achieve proper blood control, with one-third reporting proper medication adherence. A holistic educational pamphlet is a quick, inexpensive way to deliver salient health information pertaining to hypertension disease management to different populations.

Methods: A descriptive, quantitative approach with a Self-Efficacy for Managing Chronic Disease (SEMCD) 6-item validated scale was used to assess pre and posttest self-efficacy. The posttest also included questions regarding participant age, enhanced knowledge, usefulness of pamphlet, and if they would recommend the pamphlet to their friends and family. The Model for Improvement guided the implementation and evaluation process. The presurvey was administered, immediately followed by the intervention, and then the postsurvey.

Results: Of the nineteen participants, eleven were Spanish Speaking and eight spoke English. The participants had a history of hypertension, prediabetes or diabetes mellitus, dyslipidemia, anxiety, and/or depression. 100% of English and Spanish speaking participants reported increased perceived hypertension knowledge, usefulness of pamphlet, and improved self-efficacy in certain domains.

Purpose

Demonstrate the usefulness of implementing a bilingual educational module for patients with hypertension to increase hypertension knowledge, self-efficacy, and self-management.

Project Question: At Kids Kare and Family Kare Clinic, does a bilingual educational intervention for patients with a diagnosis of hypertension about hypertension and using a holistic blood pressure action plan improve their knowledge and self-efficacy about adopting a hypertension management plan?

Background/Significance

- In the U.S., racial and ethnic minorities are disproportionately burdened by cardiovascular disease-related deaths. They have a higher risk of experiencing a myocardial infarction, stroke, and renal disease.
- While African Americans are more prone to developing cardiovascular-related complications and premature death, there are higher rates of uncontrolled blood pressure, diabetes mellitus, and chronic kidney disease in Hispanic Americans, particularly Mexican Americans.
- Heart disease was the leading cause of death in 2015 in individuals residing in Maricopa county, Arizona.
- Hypertension cost the Arizona Health Care Cost Containment System $140 million in 2007.

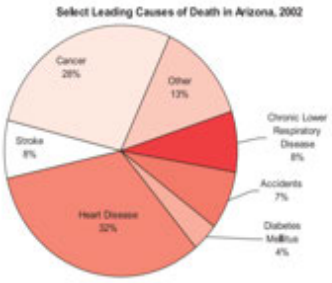
Methods

Project Design/Data Collection Tool

- Descriptive, quantitative
- Google survey pretest and posttest-
  1) Self-Efficacy for Managing Chronic Disease (SEMCD) 6-item Likert scale
  2) Questions regarding knowledge gained from intervention, usefulness of intervention, and if they would recommend to friends and family.
- Model for Implementation- PDSA model
- Face-to-face: pretest, followed by intervention, and then postsurvey

Sample

- Convenience and purposive sampling
- Inclusion criteria: diagnosis of hypertension and/or an established or new patient, 18 years of age or older, and English or Spanish speaking
- Focused on patients with hypertension, diabetes mellitus, obesity, dyslipidemia, chronic kidney disease, anxiety, and depression.
- Plan for data analysis- Stata statistical software, Google Sheets



Results

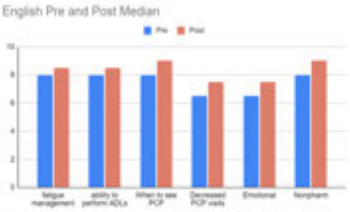


Figure 1

A Comparison of Pretest and Posttest Self-efficacy Scores of English-speakers

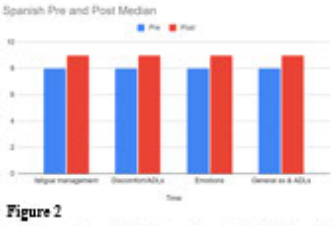


Figure 2

A Comparison of Pretest and Posttest Self-efficacy Scores of Spanish-speakers

Knowledge Post Spanish	Freq.	Percent	Cum.
Yes	11	100.00	100.00
Total	11	100.00	

Helpful Post Spanish	Freq.	Percent	Cum.
Yes	11	100.00	100.00
Total	11	100.00	

Recommend Post Spanish	Freq.	Percent	Cum.
Yes	11	100.00	100.00
Total	11	100.00	

Discussion/Conclusions

- The holistic blood pressure educational pamphlet significantly increased perceived knowledge and specific domains of self-efficacy in English and Spanish speaking participants at Kids Kare and Family Kare Clinic in Phoenix, Arizona ($p < 0.05$).
- Motivation & Social Support are key factors.
- Limitations: Small sample size, not generalizable, 4-item Spanish scale
- Future research is needed on other racial and ethnic minorities to better understand the idiosyncrasies of different cultures and how they impact the health of various populations.

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