

12-2018

# Implementing Evidence-Based Dietary Instruction Strategies in a Specialty Care Clinic

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## Recommended Citation

Landers, Jacobie, "Implementing Evidence-Based Dietary Instruction Strategies in a Specialty Care Clinic" (2018). *Doctor of Nursing Practice*. 37.

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IMPLEMENTING EVIDENCE-BASED DIETARY INSTRUCTION STRATEGIES IN  
A SPECIALTY CARE CLINIC

by

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### ACKNOWLEDGEMENTS

I want to take the time to thank my family and friends who supported me during this very busy, and difficult time. It was not easy to complete this project and I would not have been able to make it through without the support of my project advisor and saviour Dr. Jean Dols, and my mentor Dr. Umang Shah and his amazing staff.

## TABLE OF CONTENTS

LIST OF TABLES .....	5
LIST OF FIGURES .....	6
ABSTRACT .....	7
STATEMENT OF THE PROBLEM .....	8
ASSESSMENT OF THE ORGANIZATION.....	9
PROJECT IDENTIFICATION.....	10
Purpose.....	11
SUMMARY AND STRENGTH OF EVIDENCE .....	13
Hypertension.....	13
DASH Diet.....	14
Cardiologist and Dietary Management .....	15
Education .....	15
Motivational Interviewing .....	16
METHODS .....	16
Project Intervention.....	16
Project Roles .....	17
Implementation .....	19
Ethics and Human Subjects Protection .....	21
Timeline .....	22
Resources .....	22

## Table of Contents—Continued

RESULTS .....	22
Patient Participants.....	22
Measures and Indicators .....	22
Assessment Results.....	25
Unintended Consequences .....	27
DISCUSSION.....	28
Limitations .....	28
Implications for Nursing Practice .....	29
CONCLUSION .....	29
REFERENCES .....	31
APPENDIX: Quick Questionnaire .....	33

LIST OF TABLES

Table	Page
1. Pre-Intervention Adherence and Anticipated Intervention Adherence.....	13
2. Project Roles and Responsibilities.....	19
3. Project Results .....	27

## LIST OF FIGURES

Figure	Page
1. Sex .....	23
2. Age.....	23
3. Body Mass Index .....	24
4. Weekly Adherence to Project Interventions .....	24

### Abstract

Cardiovascular disease is a significant health concern that increases risks for stroke, escalates the development of renal disease, and significantly increases morbidity and mortality risk. Dietary changes can significantly reduce complications in patients with heart and vascular disease. This project was designed to effectively implement and sustain provider and cardiovascular staff instructions on dietary modifications to improve hypertension control and lower cholesterol in patients with cardiac disease using staff support. The project facilitated provider evaluation of patients' dietary habits to promote wellness in a patient population which was not receiving dietary education. Project interventions included establishing structured methods of providing written and verbal education on the Dietary Approaches to Stop Hypertension (DASH) diet, incorporating motivational interviewing to empower the patient, and promoting active patient participation in treatment plans. Following education for the provider and clinical staff on the importance of the outcomes of diet changes on cardiac health and the provision of a structured method for delivering patient education, the physician and clinical staff were followed over a course of 3 months to evaluate adherence to the education process and promote the sustainability of the project. Clinic providers and staff promoted positive health changes in patients with cardiovascular disease by achieving 85% adherence to the provision of structured dietary instruction aimed at improving dietary habits and subsequently overall cardiac health. This intervention enables doctorally prepared nurse practitioners to impact providers, nurses and other healthcare professionals to be proactive in improving patient health outcomes by promoting dietary improvements through provider and clinical staff education and clinical process changes.

*Keywords: DASH diet, motivational interviewing, cardiovascular disease, cardiology*



The Centers for Disease Control and Prevention (2013) reports hypertension as one of the costliest and most poorly managed diseases in the United States. Approximately 75 million adults in the United States have a current diagnosis of hypertension. Hypertension significantly increases the risk for mortality associated with myocardial infarction, heart failure, stroke, and renal disease (Centers for Disease Control and Prevention, 2013). Effectively managing hypertension is a major challenge for healthcare providers in the United States. Despite the proven clinical efficacy of antihypertensives, approximately one half of all patients diagnosed and treated with pharmaceuticals for hypertension are uncontrolled (Rash, Lavoie, Feldman, & Campbell, 2014).

In the primary care setting, providers have become accustomed to treating hypertension and cardiac disease with pharmacological interventions. Evidence shows that lifestyle modifications such as exercising and adherence to a heart healthy diet may significantly impact blood pressure readings and cholesterol levels (James et al., 2014). Introducing positive health habits to an at-risk population decreases the need for additional medications, frequent doctor visits, and expensive procedures while improving quality of life in patients and increasing trust in health care providers. Research shows that adhering to the Dietary Approaches to Stop Hypertension (DASH) diet is effective in the management of cardiovascular disease (CVD) (Chiu et al., 2015). The purpose of this project is to effectively implement and sustain provider and cardiovascular clinic staff instruction strategies on dietary modifications designed to improve hypertension control and lower cholesterol in patients with cardiac disease.

### **Statement of the Problem**

It has been shown that poor dietary habits are one of the leading causes of premature death in the United States (Domenech & Coca, 2016). Research has shown that changing dietary

habits of patients with a diagnosis of hypertension can significantly decrease blood pressure readings and reduce mortality risks (Domenech & Coca, 2016). Clinicians are often able to provide much needed education to their patients on dietary methods to prevent or manage CVD; however, these opportunities are sometimes overlooked. Providers need to be diligent in engaging their patients and promoting lifestyle modifications in the treatment of CVD.

According to the Centers for Disease Control and Prevention (2013), many factors contributing to cardiac disease are preventable, including diet, sedentary lifestyle, smoking, and obesity. Implementation of this intervention was designed to increase the adherence to best non-pharmacological cardiovascular practices in this clinic.

### **Assessment of the Organization**

This project took place in a cardiovascular specialty clinic located in urban San Antonio, Texas. The patients seen at this clinic had an array of CVD diagnoses and accompanying symptoms. Patient appointments were scheduled, but walk-in appointments were also available.

The clinic's physician is an interventional cardiologist seeing patients at this clinic and several other clinics in the urban and rural area surrounding San Antonio. The clinic employs one registered nurse, two medical assistants (MA), two front desk secretaries, and an office manager. The majority of the patients treated have private insurance or Medicare, with about 12% of the patient population being underinsured or receiving Medicaid. On average the physician treated 25 to 30 patients in the clinic daily. There are currently 1,196 active patients receiving treatment at the clinic. Since this is a specialty clinic, the number of active patients fluctuated throughout the assessment.

The physician works diligently to control patients' CVD. He discussed with the patient information regarding medications, and reinforced the importance of activity, avoidance of

alcohol, cessation of smoking, and eliminating red meat and fried foods from their diet. The office staff provided knowledgeable care tailored to the patient with a cardiovascular diagnosis. All staff members were able to adapt well to change and appeared deeply engaged in the care of their patient population. While the clinical staff in this setting was dedicated to providing their patients with best practice, several missed opportunities to address dietary changes were noted. After identifying this as a concern, it was decided that introducing methods to formally educate patients on adhering to a heart healthy diet would be implemented.

This project aligns with the mission of heart and vascular institute of Texas to help people achieve health for life through compassionate service. The physician and his staff were prepared to be fully engaged and participate in the success of the project.

### **Project Identification**

Prior to initiation of the project, the clinic did not formally educate patients with a diagnosis of hypertension, dyslipidemia, and/or CVD on recommended dietary habits. Evidence suggests that dietary habits strongly influence blood pressure and that diet modification can have powerful, beneficial effects on this modifiable, cardiovascular risk factor (Domenech & Coca, 2016). Guidelines support the use of dietary education and management for patients with CVD.

During an extensive review of 190 charts over the span of 1 week there was minimal documentation noted that related to the dietary education of patients. To further understand the issue of dietary education, the project leader interviewed 42 clinic patients to understand the patient's dietary knowledge as it pertains to cardiac disease and health. Over a span of 3 clinical days, the patients were asked three simple questions developed by the project leader (Appendix 1). Of the 42 patients surveyed, only 11 (24%) stated that they adhered to a heart healthy diet, 28 (65%) were unsure of what a heart healthy diet meant, and 30 (75%) did not realize diet could

affect your blood pressure. Most of the patients who did follow a heart healthy diet stated that they received the diet information from a source outside of this clinic. Although the provider did give patients instructions to avoid red meats and fried foods, no discussions occurred related to eating habits, and no descriptive dietary instructions were readily available for patients.

### **Purpose**

The goal of this project was to enable provider and clinical staff to effectively provide heart healthy dietary education enabling patients seen in the cardiovascular clinic to more effectively manage their CVD while reducing potential complications related to uncontrolled blood pressure and elevated cholesterol. In order to reach this goal, it was necessary to increase the provider and clinical staff's knowledge regarding heart healthy diets, introduce effective methods of providing diet education, and provide resource tools to help the provider and clinical staff educate patients.

### **Background**

Heart disease is the number one killer in the United States, and hypertension is the leading cause of developing CVD (Eckel et al., 2014). Lack of education, awareness, and barriers to effective blood pressure management is a significant issue. Unless steps are taken to increase the awareness of the impact of diet and exercise on controlling CVD and hypertension, mortality risk in cardiovascular patients is likely to increase (Chiu et al., 2015). It is for this reason that providing education on following a heart healthy diet is necessary.

The DASH diet is the most common dietary modification for reducing hypertension and CVD risk. Recommended by the American Heart Association (AHA), it targets controlling hypertension through dietary changes. The DASH guidelines promote a diet that is high in fruit, vegetables, and low-fat dairy foods. It has been shown to significantly lower blood pressure, as

well as lowering low-density lipoprotein (LDL) and high-density lipoprotein (HDL) cholesterol (Chiu et al., 2015).

Providers in this clinical setting can promote cardiovascular health by encouraging adherence to the DASH diet. Making small practice changes such as providing written heart healthy diet education and increasing the amount of time assessing motivation and adherence to a heart healthy diet will positively assist in the management of patients with CVD.

### **Project Objectives**

1. Patients with a cardiovascular diagnosis will be provided an educational toolkit aimed at assisting the patient to follow a heart healthy diet.
2. The clinical team will be able to verbalize strategies for controlling blood pressure and reducing cholesterol using non-medication strategies such as the DASH diet.
3. The provider will educate and assess for diet adherence and document his findings in the EMR

By meeting these objectives, there will be an increase in conversations and other strategies related to improving dietary habits in this patient population. This will allow for patients in collaboration with the clinical staff to improve overall cardiovascular health.

Sustaining these objectives will allow for the clinic to align with the 2014 Eighth Joint National Committee (JNC-8) (James et al., 2014) and 2014 American College of Cardiology (ACC) and AHA (Eckel et al., 2014) guidelines for treatment of CVD. A table was developed that discussed the proposed intervention and the anticipated adherence in response to the intervention (Table 1)

Table 1

*Pre-Intervention Adherence and Anticipated Intervention Adherence*

Intervention	Pre-Intervention Adherence	Anticipated Intervention Adherence
Clinical team verbalizes what a DASH Diet entails	25 %	100%
Clinical team receives education on toolkit	0%	88%
Clinical Interview documented	0%	75%
Provider reassessment documented	0%	98%

**Summary and Strength of the Evidence**

In order to research the impact of education on dietary changes in the treatment of CVD, an online search of reputable databases was performed. Literature was located using the CINAHL, MEDLINE, and PubMed search engines. The keywords used included DASH diet, education, motivational interviewing, hypertension, CVD, and dietary compliance and or adherence. The articles were chosen based on significance to the proposed project.

**Hypertension**

In 2014, the Eighth Joint National Committee published its newest version of evidence-based guidelines for the pharmacological management of hypertension (HTN) in adults (James et al., 2014). Experts agreed that following the 2014 JNC-8 recommendations can help improve the quality of HTN care. In these guidelines it is stated that in addition to consideration of effective

pharmacotherapies, the management of hypertension should also include patient education about lifestyle modifications intended to improve blood pressure control (James et al., 2014).

The Report of the 2014 ACC and AHA Task Force on Practice Guidelines provided guidance on lifestyle management to reduce cardiovascular risk (Eckel et al., 2014). The guideline provided evidenced-based recommendations on lifestyle modifications to improve patients' blood pressure and overall heart health. Each recommendation is graded from low to high based on the strength of the evidence supporting it. There is high evidence that a diet low in fat and sodium decreased overall blood pressure readings and cholesterol levels, which will improve the overall health of patients with CVD.

A research study conducted in China by Zhang et al. (2017) assessed the effect of a healthy lifestyle on cardiovascular health. This long-term 8-year large-scale study included more than 450,000 participants in 10 different locations in China (Zhang et al., 2017). All participants completed a questionnaire on lifestyle factors and had physical measurements taken. The findings showed that in this large cohort of middle-aged to older Chinese participants, adhering to a healthy lifestyle, such as never smoking or stopping smoking, consuming alcohol lightly or moderately, being physically active, eating a diet rich in vegetables and fruits and limited in red meat, and maintaining a normal body mass index (BMI), significantly reduced the risk of ischemic CVD (Zhang et. al., 2017).

### **DASH Diet**

The DASH diet has been one of the most effective non-pharmacological treatments in lowering blood pressure (Chiu et al., 2015). Chiu and colleagues (2015) completed a randomized control trial aimed at studying the effects of the DASH diet and the high fat DASH diet as compared to a control diet. The findings in this study show that following the DASH diet,

whether standard, or high fat, made a positive impact on the health of patients with a cardiovascular diagnosis (Chiu et al., 2015).

### **Cardiologist and Dietary Management**

According to Devries et al. (2017), a healthy diet is a key measure in the reduction and treatment of cardiovascular health. A survey was developed to assess cardiologists' ability to provide nutrition education, as well as their attitudes related to the importance of nutrition counseling. The report showed that a large portion of the cardiologists and cardiology interns evaluated have received minimal medical education on the management of nutrition in their patients (Devries et. al, 2017). This article eludes to a significant lack of education in providers related to nutrition management and supports the need for more research on the topic.

### **Education**

A study was conducted by Babae Beigi et al. (2014) to determine the effectiveness of a short-term educational program in blood pressure control and adherence to healthy lifestyle. In this study participants were randomly selected and then requested to complete tests to assess their blood pressure knowledge and lifestyle scores. Each patient received individual education sessions with a cardiology resident related to diet, medication, and exercise habits. After individual sessions the participants were placed into group education classes offered over a period of three months. Data collected in this study revealed an increase in patients' overall hypertension knowledge and a decrease in negative health behaviors (Babae Beigi et. al,2014). This study allowed the researchers to infer that education sessions improved patient self-management behaviors and increased patient awareness of their diagnosis (Babae Beigi et al., 2014). This study supports the idea that education plays a positive role in improving patients' overall health by empowering them with knowledge.



### **Motivational Interviewing**

Motivational Interviewing has been shown to promote change and improve patient adherence to medical interventions. Motivational Interviewing is a tailored, patient-centered communication skill set that has been shown to have a significant impact on a broad range of health behavior change targets and patient populations, including medication adherence (Christie & Channon, 2014). According to Christie and Channon (2014), motivational interviewing can be effective at recognizing and removing patient challenges related to the management of CVD. The study showed that empowering patients to have control over their diagnosis led to healthier diet habits, a decrease in BMI, and an increase in self-care.

### **Methods**

This evidence-based quality improvement project was designed to facilitate provider interaction with each cardiovascular patient related to diet, provide evidence-based patient education, and use motivational interviewing to empower the patient to effectively manage their CVD improving blood pressure control and lowering cholesterol. This project was developed as a collaborative effort with the physician and the clinical staff. The goal of this dietary education program was to enable providers and clinical staff to effectively encourage patients to use a heart healthy diet to more effectively manage their CVD, while reducing potential complications related to uncontrolled blood pressure and elevated cholesterol.

### **Project Intervention**

The first intervention was to provide a nutrition education toolkit for provider, staff, and patient use. The nutrition education toolkit focusing on a heart healthy diet was assembled by the project leader and finalized after review with the provider. The toolkit contained pertinent data on the DASH diet retrieved from the National institute of health (NIH) website (National

Institute of health, 2008). The toolkit also contained a written education handout to provide to patients as a reference. Providing patients with a written reference reinforced the education provided verbally by the clinical staff and the provider. The toolkit provided patients with specific information regarding the foods to avoid, foods to include, and the appropriate dietary intake for the patient with cardiac disease.

The second intervention was to use information obtained from the AHA and peer-reviewed articles to develop an educational power point presentation aimed at providing knowledge to the clinical staff on the importance of dietary changes in the management of hypertension and cardiac disease. This presentation was presented in a discussion style format in order to correct misconceptions, as well as provide new or updated information.

The third intervention was to educate the RN on motivational interviewing methods and validate her understanding of this concept. The RN then used motivational interviewing to encourage the patient to assess the patient's interest in a heart healthy diet and changing their lifestyle, as well as the patient's intent to adhere to a heart healthy diet.

The fourth intervention was to contact the EMR computer vendor to have them reconfigure the electronic health record to provide a simple method of charting dietary education. This allowed the physician to document his education of the clients on a heart healthy diet and document an assessment of the patient's adherence.

### **Project Roles**

The Doctor of Nursing Practice (DNP) student served in the role of project leader and was responsible for compiling the English and Spanish nutrition information toolkit to be provided to the patients and assisting the physician in the implementation and evaluation of the proposed intervention. As the project leader responsibilities included creating the educational

program with details on how its implementation should take place by preparing a PowerPoint presentation which was then included as part of the educational toolkit for the clinic staff and physician. The project leader also conducted an additional multi-modal education session with the RN related to motivational interviewing. The session included educational materials, instruction, and practice in the use of Motivational Interviewing. The project leader served as a mentor to the RN in the use of Motivational Interviewing to promote patients' adherence to a heart healthy diet.

The MA played a key role in the implementation of this project. She was tasked with ensuring that the patient received the dietary toolkit in their preferred language and communicated to the RN whether the patients were receptive to the information contained in the toolkit. The MA also assessed whether the patient wanted to speak with a clinician to gain more knowledge on the dietary instructions. The RN was tasked with meeting each patient new to the practice prior to their appointment. She was to incorporate motivational interviewing into the initial conversation to assess the patients' willingness to change dietary habits, as well as address possible roadblocks that may hinder the patients' ability to adhere to the DASH diet. They worked together to develop a plan of care aimed at successfully making changes to diet and overall cardiovascular health. The RN also assured that the MAs had provided written patient education materials to the patient in English and/or Spanish.

The physician encouraged patients to adhere to a heart healthy diet, evaluated the patients' dietary habits at each visit, monitored their willingness to change, and assessed for obstacles in achieving their goals. The office manager facilitated the project by working with the company responsible for the electronic health record to insert a charting application related to diet. Table 2 summarizes project roles and responsibilities.

Table 2

*Project Roles and Responsibilities*

Roles	Responsibilities
Project leader	<ol style="list-style-type: none"> <li>1. Provide staff and physician education on clinical roles in the assessment and promotion of a healthy diet.</li> <li>2. Compile the heart healthy educational toolkit in Spanish and English to be reviewed by the staff and physician and distributed to the patients.</li> <li>3. Facilitate the implementation of the interventions, monitor change, and serve as a resource.</li> </ol>
Provider	<ol style="list-style-type: none"> <li>1. Assess patient adherence to a heart healthy diet through lab results and clinical assessment.</li> <li>2. Reinforce healthy diet education.</li> <li>3. Document patient knowledge and adherence to the DASH diet in the EHR.</li> </ol>
Registered Nurse	<ol style="list-style-type: none"> <li>1. Verify patients have received heart healthy diet education toolkit.</li> <li>2. Educate new patients on cardiac disease self-management.</li> <li>3. Use motivational interviewing to promote adherence to the DASH diet.</li> </ol>
Medical Assistants	<ol style="list-style-type: none"> <li>1. Provide a nutrition questionnaire to patients during their first visit after project implementation.</li> <li>2. Provide heart healthy education toolkit to each patient. Document patient receipt of heart healthy education toolkit in the EHR.</li> <li>3. Ask each patient if they would like further information on their heart healthy diet. Communicate patient request for information or diet-related concerns to the RN.</li> </ol>
Office Manager	<ol style="list-style-type: none"> <li>1. Work with the developer of the electronic health record to add dietary checklist to charting to measure adherence.</li> </ol>

**Implementation**

The goal of this project was to educate first the clinical staff and physician, and then the cardiovascular patients on the key elements of a heart healthy diet using strategies for promoting and improving diet adherence. The clinical staff was provided a PowerPoint presentation during lunch that included information obtained from scholarly articles and the NIH related to the importance of dietary management and cardiac health. During this educational session the

clinical staff gained the knowledge, skills, and tools to assess the impact of using written education and motivational interviewing to improve dietary choices in patients with a cardiovascular diagnosis treated at this clinic. Developing effective education methods and formulating plans to provide education in a manner that the client will find effective, should assist in removing barriers to care. The effect of promoting healthy dietary practices in this community can significantly impact the management of cardiac disease. Once the staff was educated, verbal assessment was used to ensure that the staff fully understood the purpose of the project and were prepared to provide education to the patient population on dietary health. A dietary toolkit derived from information available from the NIH was developed by the project leader with input from the physician to be given to the patients at seen at the clinic. The kit included a detailed pamphlet on the DASH diet, suggestions on foods to incorporate in their diet, as well as foods that should be avoided or consumed in moderation. The toolkit also included a log for the patients to keep track of their daily intake habits. These dietary toolkits were given to the RN and the MA to provide to the clients.

At initiation of the project the MA, who was bilingual, took time during the intake of the patients to learn the patient's preferred language for reading materials. After learning their preferred language, the MA then provided the patient with a toolkit and documented this activity on the assessment page in the EHR. While triaging the patient, the MA also asked if they had dietary concerns they wished to address further with the physician or the RN. During the first week of the project the MA often forgot to complete the assigned task as previously discussed, this was addressed by the project leader at the completion of week 1. The MAs received a review of the project goals and how this may affect the patient population. After receiving this reminder, the MAs became more diligent at providing patients with the dietary toolkit.

At initiation of the project the RN was present to serve as a resource to the physician and MAs as well as be present to complete motivational interviewing on an as-needed basis. Less than 25% of the new patients seen in the clinic requested further information from the RN. This may have been related to lack of time, interest, or understanding. The RN was efficient at intervening, by addressing patients with abnormal labs influenced by dietary choices, such as elevated cholesterol levels, and discussing the importance of diet changes in these clients. Also, in weeks 3 and 4 of the project the MAs were providing the educational toolkits to over 70% of the patients seen in the clinic consistently.

The RN was not present during week three of the project and was not able to serve as a resource to other staff members and the project leader at that time. The project leader ensured that the staff had an adequate number of toolkits available for all patients scheduled that week. One MA was tasked with a key role at this point of the project, in that she was to ensure that the patient population received the dietary toolkit. A patient log was kept in the clinic that provided the names of patients that did receive the information along with their demographic information for the project leader to collect at the end of the clinical week. At follow up appointments, the physician generally discussed dietary habits and how it affected overall cardiac health with the patients.

### **Ethics and Human Subjects Protection**

This project was reviewed by the University's Institutional Review Board (IRB). The IRB deemed this project to be a quality improvement project, not requiring review by full IRB. During the completion of this quality improvement project, all participants were protected in accordance with the Health Insurance Portability and Accountability Act (HIPAA) of 1996.

**Timeline**

The projected timeline was 2 weeks to acclimate the physician and staff to the initiation of the project and 10 weeks to assess the effect of the interventions launched. In this phase of the implementation process, emphasis was placed on ensuring the provider spent time educating patients on positive dietary management and assessing the patients' success with maintaining a heart healthy diet, while reducing systolic blood pressure readings and hyperlipidemia as it applied.

**Resources**

This project resulted in minimal cost for the clinic. The clinic provided funding to print the toolkit, provided clinical staff education hours, and updated and maintained the electronic health record to accommodate efficient documentation of the nutrition instruction.

**Results****Patient Participants**

The patients that participated in this project were predominately White and between the ages of 57-69. Figures 1 through 4 show details of the patient population.

**Measures/Indicators**

Informal questionnaires assessing the patient's knowledge of a heart healthy diet was developed by the project leader. These questionnaires were verbally administered in the initial phase of the project.

A detailed log of patients participating in the project was kept for reviewing the patients' demographics as well as the information received during this project. The MA documented each patients' name after providing them with written information on the DASH diet. The project leader monitored this documentation throughout the project.

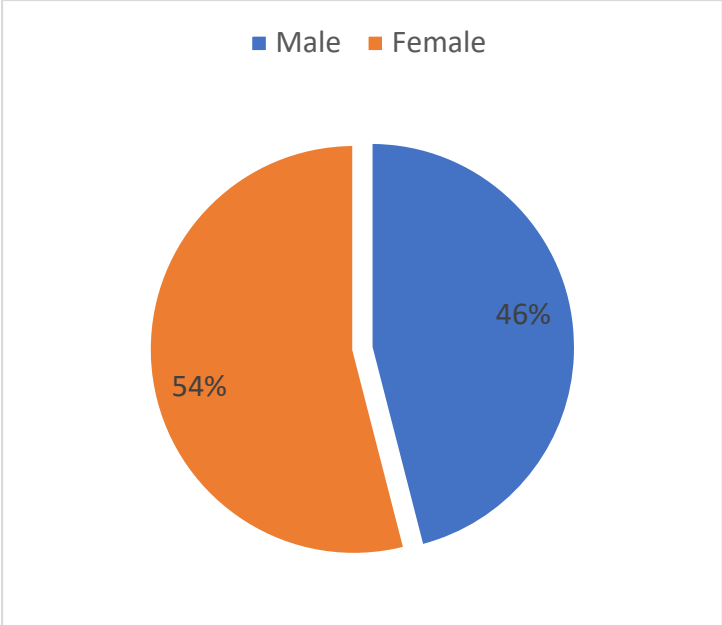


Figure 1. Sex of patient participants.

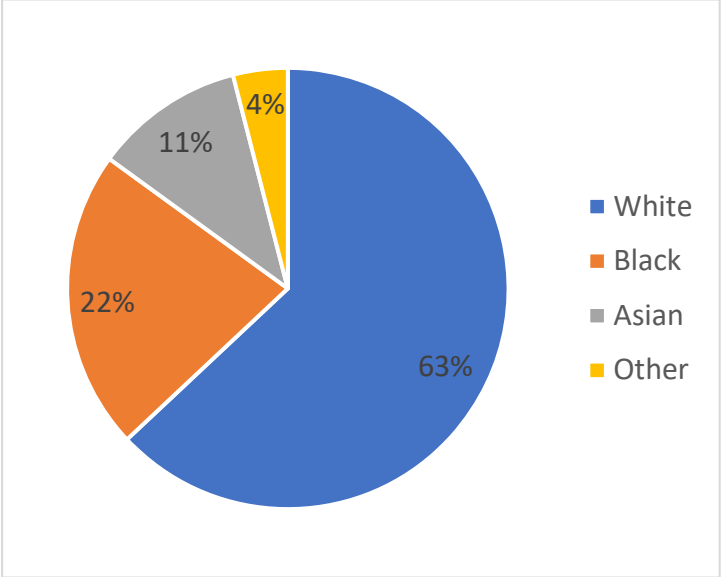


Figure 2. Race of participant participants.



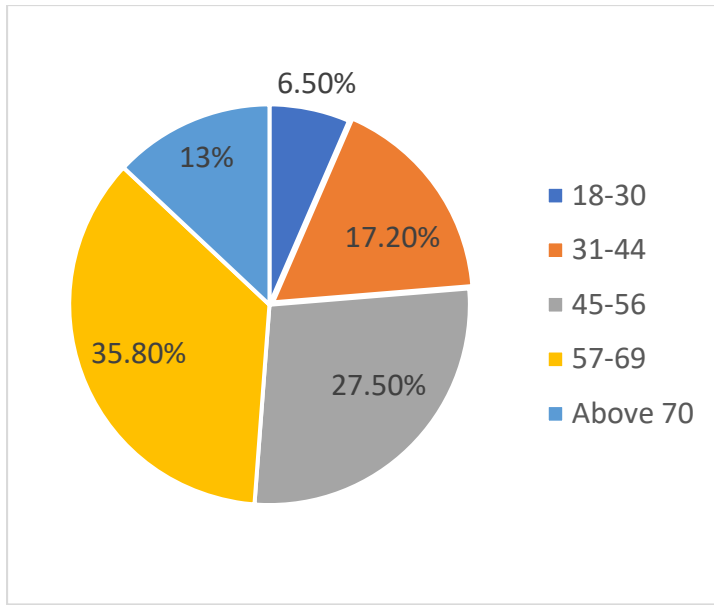


Figure 3. Patient participant ages.

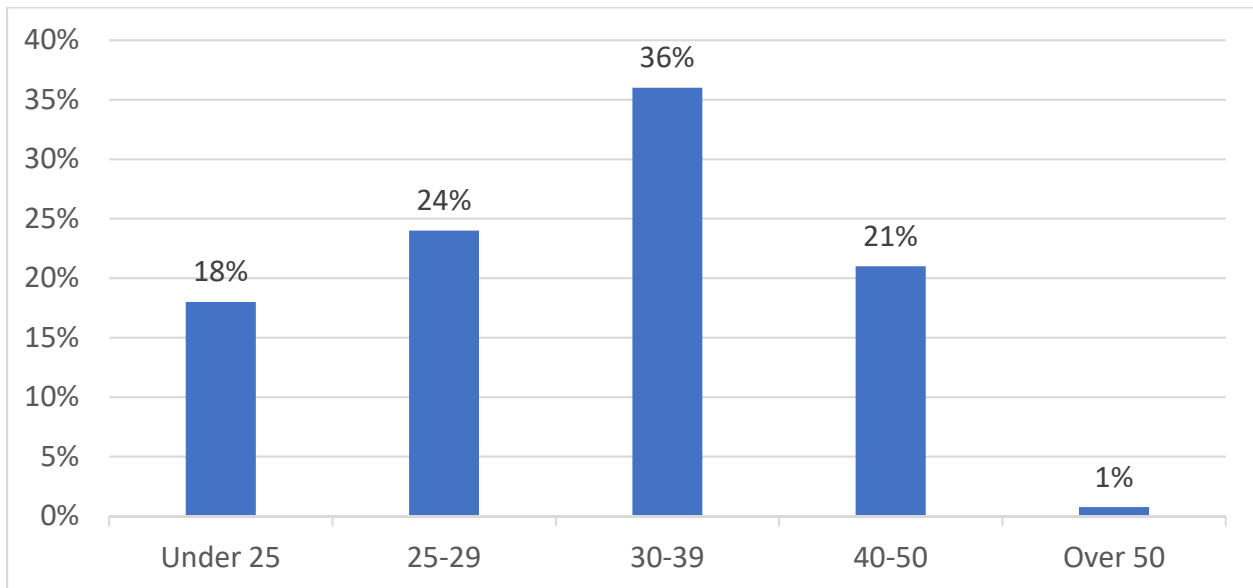


Figure 4. Patient participant body mass index.

Process measures included documentation in the medical record by the MA that the dietary instruction handout was given to the patient. The RN documented the patient response to motivational interviewing and was tasked with monitoring for indicators of adherence to strategies for dietary modification.

In order to measure the physicians' discussion of dietary assessment of patients' compliance to the DASH diet, a quality measure indicator was placed in the EHR that enabled the MD to efficiently chart every time a discussion on dietary status occurred. Another indicator was that as part of the history of present illness the provider charted patient response when asked, have you been following a heart healthy diet? The electronic health record played an integral role in the success of this project in that it provided a written record of patients receiving the education on a cardiac diet.

### **Assessment Results**

An average of 110 patients were seen in the clinic weekly during the assessment. During week 1 of the project 118 patients were seen and of these patients only 47, or 25% of the patient population seen in the clinic received the dietary education. Of these 47 patients that received the education the physician documented nutritional reassessment on 14 of these patients. By week 4 of the project the clinical staff had become more adherent to the goal of the project and 98 (69%) of the 142 patients received the dietary toolkit (Figure 5).

At completion of this project all staff members were able to verbalize the importance of a heart healthy diet in promoting cardiovascular health (Table 3). This knowledge led to an increase in dietary education by all clinical staff members. An average of 83.6% of the patients seen in the clinic following project implementation received written dietary education. Although the RN's clinic responsibilities prevented her from offering motivational interviewing consistently to the patient population, she prioritized when time was available and used motivational interviewing with patients who had abnormal laboratory tests.

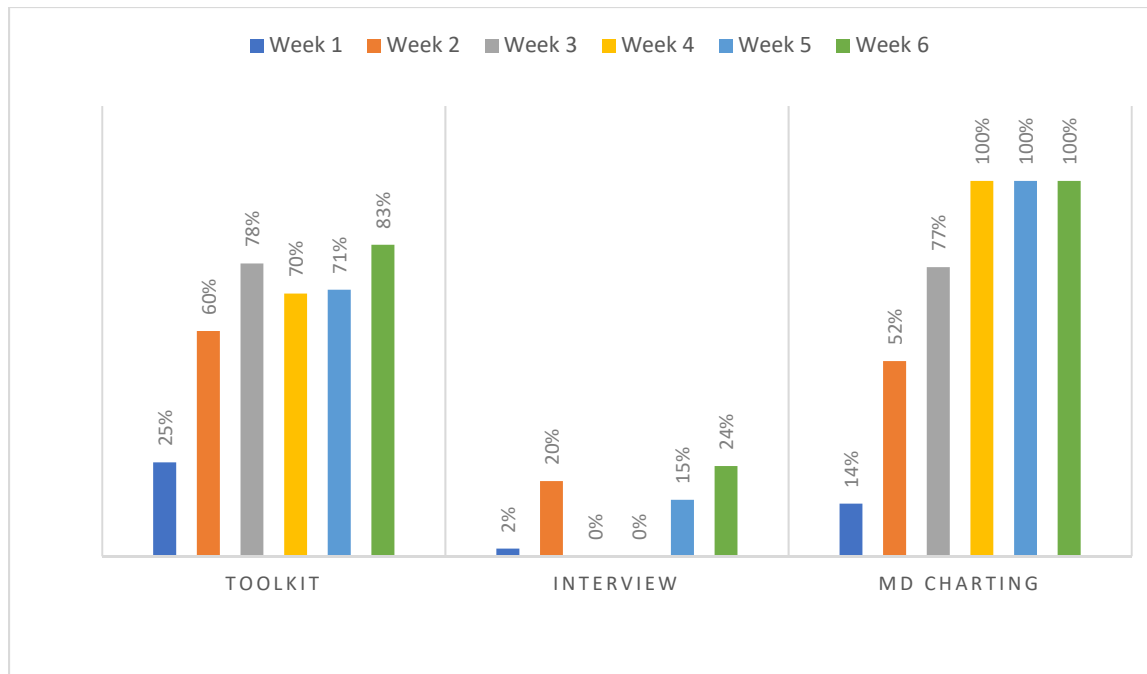


Figure 5. Weekly adherence to project interventions.

Motivational interviewing was used with less than 25% of the patients that received dietary education. Since dietary education is listed as a core measure for the cardiologist, the provider quickly accepted this task and by week 3 of the project the physician was charting the education of dietary habits on 100% of patients seen by him in the clinic.

It was noted that the MA was more compliant with providing the toolkit when the project leader was present in the clinic. While the project leader was present, over 80% of the patients received the educational toolkit, compared with 50% or less if the project leader was not present in the clinic. To further assess this phenomenon, the project leader had a discussion with the MA to determine why this was occurring. It was determined that the MA would simply forget about providing the information to the patient when the project leader was not present. In order to rectify this issue, the front desk staff kept the copies of the toolkit and would place it on the chart as a reminder to the MA while triaging the patient. The provider did document nutritional reassessment on all the patients that received the dietary toolkit. At the completion of this

Table 3

*Project Results*

Intervention	Pre-Project Adherence	Projected Adherence	Project Results
Clinical team able to verbalize what DASH diet entails	50%	100 %	100%
Dietary instruction handout given to patient	0%	88%	83%
Education documentation completed	0%	80%	86%
Motivational interview completed	0%	80%	24%
Provider reassessment documented	0%	90%	100%

project the office manager, as well as the physician, realized a lack of resources needed to provide the patient population with the tools they needed to properly manage their cardiovascular health. The RN was not allotted time in her busy schedule to regularly interact with the patient population outside of the procedure suite. This became apparent during this project and a part time RN position was opened prior to completion of the project.

**Unintended Consequences**

The office manager noted a lack of resources that should be provided to the clients in this clinical setting including nuclear medicine testing and nutrition education, so resources including a nuclear medicine clinic and a dietician were actively being added at the end of the project. This project not only addressed the importance of dietary management in the treatment of CVD, but

also assisted in the office redesign and led to numerous opportunities for process changes in office flow.

### **Discussion**

According to the literature, there is a correlation between effective physician-patient communication and improved patient health outcomes (Elwyn & Frosch, 2016). The patients seemed very receptive to the physician discussing dietary habits with them during their visits. The patients were engaged in the conversation with the physician asking pertinent questions and providing feedback. This supports the ideal that patients are more engaged with self-care when the physician opens the line of communication.

Research shows that a healthy diet is a key measure in the reduction and treatment of cardiovascular health (Devries et. al, 2017). Taking the time to introduce a healthy diet to the patient population at this clinic will not only meet the guidelines of cardiac care but may also alter the patients' clinical outcomes. Spending more time in the clinic would have allowed for a better assessment of this concept and how it affected the patients in the clinic.

### **Limitations**

The goal of this project was to implement sustainable process changes aimed at educating patients on dietary changes with minimal disruption to patient care. One barrier to the success of this project was the staffs' willingness to change. Although the staff seemed engaged with the project, it was difficult to encourage change in their daily routine. Another major limitation was that the physician began to automatically chart in Athena that he discussed dietary education with the clients. This prevented the project leader from accurately collecting data related to education provided by the provider.

The toolkit was only available in English and Spanish. This clinic had a significant population of Asian patients who would have benefited from the information included in the dietary toolkit.

Another issue that affected the outcome of the project was the workload of the RN in the clinic. The RN nurse was tasked with using motivational interviewing to promote adherence to dietary changes with the patient population, however her workload often prevented her from having time to complete these tasks.

The final limitation is the short time frame of this project. A longer follow-up period may have been beneficial to further understand the sustainability of this change

### **Implications for Nursing Practice**

This evidence-based quality improvement project promoted processes that supported the promotion of holistic care for the assessed patient population. This intervention encouraged provider discussions with patients related to positive dietary changes. It also enabled the advanced practice nurse to encourage providers, nurses and other healthcare professionals to be proactive in improving patient health outcomes by promoting dietary improvements through provider and clinical staff education and clinical process change; while enabling patients to be proactive in their health and general well-being. This easily reproducible intervention can also be used in primary care offices where dietary education is lacking.

### **Conclusion**

This evidence-based quality improvement project has significant implications for practice change. To promote staff compliance with the project, the DNP student created an educational session for providers and clinical staff that led to a noted increase in discussions related to dietary compliance and also promoted changes in practice. The provider and ancillary staff at the

clinic now have the ability to continue this process independently. This project also led to process changes in the office overall. This project served as an introduction to future projects related to dietary changes as it relates to CVD. Future research studies could be conducted to assess the effect of dietary changes or presence of a dietician on hypertension. This DNP project produced results that are expected to significantly improve the quality of life of patients with a diagnosis of CVD.

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Appendix: Quick Questionnaire

Do you follow a heart healthy diet?            Yes            No

If Yes, where did you receive information on a heart healthy diet? \_\_\_\_\_

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Do you know what a heart healthy diet includes?            Yes            No

Does your diet effect your blood pressure and cholesterol?    Yes            No            Unsure