

## **Hypertension Assessment and Dietary Intervention**

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## **Hypertension Assessment and Dietary Intervention**

### **Project Overview**

#### **Project Purpose**

The purpose of this project was to provide the Dietary Approaches to Stop Hypertension (DASH) diet education as a health intervention to minimize the risk of individuals who were hypertensive or pre-hypertensive from experiencing a heart attack or stroke (Che Wan Mansor et al., 2019). According to Hall (2018), the DASH diet education was developed by the National Institute of Health (NIH), National Heart Lung, and Blood Institute, for preventing and managing high blood pressure and heart disease (Appendix A). The DASH diet specifically includes fruits, vegetables, nuts, dairy products, chicken, fish, and food low in saturated fat, cholesterol, sugar, sodium, and refined carbohydrates. The Hypertension Assessment and Dietary Intervention project was designed by the author to be a community-based project administered at a faith-based practice setting in Waldorf Maryland for individuals in the population at the faith-based practice setting who had been diagnosed with hypertension, or who could have been prehypertensive. In addition, the purpose of this project was to introduce the participants to the DASH diet, that could, if followed, improve the likelihood of overcoming the hypertension they were experiencing (Che Wan Mansor et al., 2019).

#### **Project Description**

The intervention was conducted in a 4-week session. On the first day of the session, the participants' blood pressure was measured. The participants' progress in following this diet was monitored during the 4-week period, and any changes in the participants' blood pressure was assessed and evaluated after the last day of the session. Each participant in the hypertension assessment and dietary intervention program was given a form to complete for documenting the

daily food group servings, that they ate daily as illustrated in the daily DASH diet log (Appendix B). Each participant, through self-care, was asked to monitor and record their blood pressure daily. In addition, the author emphasized the importance of each individual adhering to blood pressure medication as prescribed by their physician and reviewing all blood pressure logs and results every week.

One assessment tool was used during the project to record the changes in the participants' blood pressure. While each participant in the project monitored their blood pressure daily for self-care practices, the Blood Pressure Auditing Tool (Appendix C) was used by the author to document the results of administering blood pressure measurements for each participant three times during the 4-week session, namely on day 1, day 15, and last day. The data recorded in the Blood Pressure Auditing Tool for the three dates was tabulated in a spreadsheet and the changes were calculated and evaluated (Appendix N).

Two assessment tools were used to assess the progress of the participants in adapting to the DASH diet and formulating plans for continued use of the diet. The daily DASH diet log was given each week to the participants to be completed. The information provided in the daily DASH diet log was intended to provide the data to measure changes because of the DASH diet. A Formative Survey was administered to the participants on day 15 (Appendix D). In addition, a Summative Survey was administered to the participants on day 29 (Appendix E). Formative and Summative Surveys have been used in the past with a measure of success to assess the progress of the participants' understating in the learning process or to reinforce the information being provided (AHA, 2021). These Surveys were used by the author to assess the progress of the participants in the program. These tools were deemed to be useful tools in that they were helpful for the project because they not only provided the data to measure changes in blood pressure but

were also used to indicate the participants' understanding of the relationship between diet, health and blood pressure control. The author met face-to-face with the individual participants by appointment during the 4-week session and during the last day to discuss the participant's progress and plans for continuing use of the DASH diet to assist in controlling their blood pressure.

This project was approved by the Practice Mentor for presentation at the project proposal site. The Facility Approval Letter for the Hypertension Assessment and Dietary Intervention project is included (Appendix F). In addition, the Certificate of Completion for the Collaborative IRB Training Initiative (CITI) is also attached (Appendix G).

### **Background and Significance**

The Hypertension Assessment and Dietary Intervention project is significant to healthcare in several ways. According to Alexander and Yang (2019), hypertension is the most shared key diagnosis in the United States. It affects nearly 86 million adults 20 years of age and older and is a major contributing risk factor for cardiovascular diseases, such as heart attacks, strokes, and chronic kidney disease. In addition, the causes of most cases of adult hypertension are still unknown, despite widespread research over the past several decades (Alexander & Yang, 2019). According to the American Heart Association or AHA, (2021), hypertension is defined as a systolic blood pressure (SBP) of 130 millimeters of mercury (mmHg) or more or a diastolic blood pressure (DBP) of 80 millimeters of mercury (mmHg), or more (AHA, 2021).

According to the Centers for Disease Control or CDC, (2019), heart disease is the primary cause of death for men, women, and people of several racial and ethnic groups in the United States. About 647,000 Americans die from heart disease each year—or 1 in every 4 deaths. According to Hall (2020), hypertension is a form of heart disease, is a risk factor for

premature death, and is responsible for 450,000 preventable deaths each year. The Surgeon General seeks to reduce the negative health effects of hypertension by identifying evidence-based interventions that can be used in diverse settings (CDC, 2020).

### **Planned Outcomes**

There were two expected outcomes for the participants from this project. First, a reduction of hypertensive blood levels to a safe range. Second, adoption of a healthy dietary lifestyle that would, if consistently followed over time, promote continued success in blood pressure control.

### **Relationship of Project to DNP Essentials**

The relationship of the project to the DNP Essentials of the American Association of Colleges of Nursing (AACN) for the School of Nursing DNP Program Outcomes was described by the author as a complimentary relationship. The Hypertension Assessment and Dietary Intervention project addresses all of the AACN Essentials (2006). The literature review of this project for example, addressed Essential I: Scientific Underpinnings for Practice (AACN 2006). In addition, the author described the scientific underpinnings for practice by showing that scientific evidence existed about the interrelatedness between risk factors, comorbidity factors, lifestyle, health, diet, and hypertension (AACN 2006).

For Essential II, the author emphasized the importance of organizational systems leadership, systems for quality improvement, and systems thinking. The author sought to achieve these objectives, in several ways. The author believed that these objectives could be achieved by ensuring patient safety and evaluating effective strategies for managing ethical dilemmas in hypertensive care, providing individuals with health and dietary education regarding

cardiovascular health, and comorbidities that are synonymous with preventing hypertensive crisis such as heart attacks or strokes (AACN 2006).

The author's project also included reference to clinical scholarship and analytical methods for evidence-based practice for Essential III. The focus, in this instance, was based on implementing technology with the inclusion of the literature review, needs assessment, project description and expected outcomes to improve health care outcomes (AACN 2006). The author included evidence-based analytical methods for education concerning individuals who were hypertensive or pre-hypertensive by integrating health assessments, by including the use and review of computer data input and examination, and by including reviews and conducting analysis of evidence-based research and data throughout the program.

According to AACN (2006), Information Systems and Patient Care Technology for the Improvement and Transformation of Health Care in Essential IV, was addressed in several ways. One way that this was addressed in this project was by evidence-based research incorporated with PowerPoint presentations, health education materials, screening tools, and computer analysis of the data that was obtained, reviewed, and distributed in compliance with HIPPA privacy laws. The implementation of these management processes was conducted by the author in an attempt to effectively evaluate information systems and patient care technology programs, in order to improve and transform patient care and outcomes (AACN 2006).

The project plans, as described in this discussion, illustrated Essential V of the School of Nursing DNP Program Outcomes of Health Care Policy for Advocacy in Health Care (AACN 2006). Providing community health education and interventions to prevent cardiac arrest for individuals who were affected or could be adversely affected by hypertension was an important

aspect and goal of this program. The author focused on the importance of advocating for individuals who needed these services to improve outcomes.

The author also planned to promote interprofessional collaboration. Interprofessional Collaboration for Improving Patient and Population Health Outcomes are important aspects of providing beneficial care to individuals as outlined in Essential VI (AACN 2006).

Intercollaborative efforts includes referring patients for follow-up care with physicians, optometrists, nutritionists, other healthcare professionals, and community subject matter experts as necessary to improve patient outcomes.

The author assessed, planned, implemented, evaluated, disseminated, and presented this project in several ways. One method that the author implemented during the dissemination of the Hypertension Assessment and Dietary Intervention project included planning to reach a wider base of individuals who were in need of finding evidence-based methods for reducing the hypertension they were experiencing through the use of the DASH diet. The author the author therefore, provided structure and support for participants to improve hypertensive health through intercollaborative care, enhanced the practice of leadership skills and engaged the participants in the process of clinical prevention practices as delineated in Essential VII of the School of Nursing DNP Program Outcomes (AACN 2006).

The author's project design, purpose, and needs assessment illustrated the importance of integrating health education with lifestyle changes such as dietary interventions for individuals who are hypertensive. These strategies were also relative to Advanced Nursing Practice refined levels of clinical judgement, systems thinking, and accountability in designing, delivering, and evaluating health care in a complex system as outlined by Essential VIII of School of Nursing Program Outcomes (AACN 2006). Improving patient outcomes could be achieved by

implementing effective risk assessment and risk management strategies for patients who are hypertensive.

### **Practice Setting and Community**

The practice setting was a faith-based church in Waldorf, Maryland. The target population was the membership of 321 adults who attended church services online due to COVID-19. The adults who would participate in the project would be church members who had been diagnosed with hypertension or who were pre-hypertensive or anyone who was interested in hypertension management and dietary management and interventions that could be implemented for the control of blood pressure. A needs assessment was conducted for the community of Waldorf and for members of the faith-based church in Waldorf Maryland by author. This community based-project assessment revealed that data collected from the Charles Health County Needs Assessment, focused on the importance of increasing the effectiveness of available services for hypertensive individuals by making community-based outcomes for hypertension management a number one priority (UMCRM, 2021). In addition, the Focus Group who led an interactive survey about community health needs assessment determined that: 1) Obesity was on the rise in Charles County; 2) emergency visits related to hospitalization for hypertension had increased; 3) and that hypertension was the 10<sup>th</sup> leading cause of death in Charles County (UMCRMC, 2021).

This community-based project revealed several parishioners who were interested in learning more about hypertension control, management, and preventing heart attacks and strokes through dietary intervention. As a result of several announcements made by the Practice Mentor virtually and on-site at the practice-setting, via regularly scheduled church

zoom meetings, several church members expressed interest in hypertension assessment and dietary intervention techniques for hypertension management and control.

### **Target Population**

The target population were prone to hypertension for several reasons. One reason attributed to the target population (n=321), being prone to hypertension was based on these individuals being unaware that they were hypertensive or because some individuals were prone to making dietary selections from foods that were not nutrient dense and were high in sodium content (Hall 2018). In addition, individuals who were not exercising enough, not adhering to portion control in food selections, and had elevated stress levels were also prone to being hypertensive (Appendix I). Selecting packaged foods or fast foods and eating on the run or in the car along with expressions of a busy lifestyle was described as a normal way of life by some of the participants who later chose to become active participants in the Hypertension Assessment and Dietary Intervention project.

### **Key Stakeholders**

The key stakeholders included the participants in this project. In addition, the key stakeholders included the other members and the leader of the faith-based organization. Also, the key stakeholders included the families of the project participants and the other members and the leader of the faith-based organization.

### **Needs Assessment**

The needs assessment for this community-based Hypertension Assessment and Dietary Intervention project was based on the data provided in the Charles County 2018 Community Health Needs Assessment report, and responses from church attendees and members of the faith-based practice organization (UMCRMC, 2019). The Charles County Health Department ranked

heart disease as its number one health problem. In addition, the Charles County Health Department also concluded that increased community education efforts could contribute to the potential for decreases in the number of cardiovascular disease occurrences (UMCRMC, 2019).

The fact that cardiovascular disease was the number one cause of deaths in the county was a cause of concern. The importance of this revelation should not be underestimated. In addition, the outcomes implicated in the revelation of this data provided a high level of assurance that community-based education efforts developed and implemented by the author to focus on the mitigation of hypertension would be recognized and accepted by the Charles County Health Department.

The author prepared a recruitment announcement for all the church parishioners to identify the degree of interest that existed within the local church for a project that focused on cardiovascular health issues, and specifically hypertension management. This announcement was sent to the 321 church parishioners on September 17, 2020 by the Pastor of the Church, who is the author's Practice Mentor (Appendix H). Seven parishioners responded to the recruitment announcement. Due to COVID-19 precautions, the Practice Mentor, Health Ministry Department, and members of the faith-based church congregation agreed for the author to provide hypertensive assessment and dietary intervention educational presentations on a 4-week virtual basis during worship services online during the specified time of 11:00 am – 11:15 am. This program was begun only on approval of the project by the Department Chair, Faculty Mentor, and the IRB of Purdue University Global Online School of Nursing. The presentation of the Hypertension Assessment and Dietary Intervention project was requested from the author because the seven respondents to the recruitment announcement indicated they were interested in being educated about the potential and importance of

controlling blood pressure through dietary interventions. For the individuals who were on hypertensive medications, the author promoted adherence to taking blood pressure medication as recommended by the individuals' physicians. A Readiness to Change Questionnaire was distributed regarding the respondents' physical activity and eating over the past 3 months (Appendix I). Next, a Community Readiness Scoring Sheet was used to assess the readiness of the Waldorf SDA Church for the Hypertension Assessment and Dietary Intervention project (Appendix J). The Community Readiness Scoring Sheet was reviewed and the responses of the individuals for the following dimensions of the hypertension assessment and dietary intervention project was assessed based on: knowledge of participants' efforts to control hypertension; leadership plans to educate the participants regarding hypertension control through preventative health checks such as blood pressure monitoring, and the DASH method of dietary intervention; community health readiness was also assessed; knowledge of issues of the dangers of uncontrolled hypertension as it relates to heart attacks, strokes, blindness, kidney damage, and death was considered; and the resources necessary to complete the project were also evaluated. The author considered the individual scores of these dimensions to determine the community readiness in conjunction with the Readiness to Change Questionnaire.

According to Francula-Zaninovic and Nola (2018), hypertension contributes to cardiovascular disease, examples of which include narrowing of the arteries, heart attacks, and strokes. According to Stibich, (2019), smoking is a leading contributor to hypertension. In addition, poor food choices, obesity, lack of regular physical activity, and diabetes, increases the risk of hypertension. Also, according to Fogoros (2019), elevated cholesterol and triglycerides increases the likelihood of individuals developing hypertension.

## Review of Literature

Che Wan Mansor et al. (2019), reviewed 20 reports that described the effects of 9 dietary interventions on lowering hypertension. The 9 diets were: 1) Mediterranean diet with extra virgin olive oil, vegetables, fruits, cereals, nuts, legumes, fish, poultry, meat, dairy products, red wine, eggs, and sweets; 2) Dietary Approaches to Stop Hypertension (DASH) diet with fruits, vegetables, nuts, dairy products, chicken, fish, and food low in saturated fat, cholesterol, sugar, sodium, and refined carbohydrates; 3) Dietary portfolio with soy protein, viscous fiber, nuts, and plant sterols; 4) Low-fat diet with five servings of vegetables and fruits per day, six servings of grains per day, and total fat of 20 percent of the total caloric intake per day; 5) Whole-grain diet with 50 grams of whole grains per every 1000 calories per day; 6) Nordic diet with rapeseed oil, wholegrain cereals, berries, fish, vegetables, fruits, and low fat dairy products; 7) Consumption of nuts with 42 grams of walnuts per every 1500 calories per day, and almonds equal to 15 percent of the total caloric intake per day; 8) Consumption of nitrate-rich vegetables with 800 milligrams of nitrate-rich vegetables such as beetroot, salad, and spinach; and 9) Dietary supplements such as quercetin from onion skin extract, cholecalciferol, nitrate supplements, grape seed extract, freeze-dried blueberry, and whole foxtail millet, without modifying the whole diet. Che Wan Mansor et al. (2019) concluded that the Mediterranean, DASH, and Nordic diets were the most effective diets to reduce hypertension. Che Wan Mansor et al. (2019) also noted that the DASH diet was combined with walking for 15 to 20 minutes per day, 5 days per week.

Mahdavi-Roshan et al. (2020) conducted a systematic review and meta-analysis of 5 trials on 408 individuals to ascertain the effect of the consumption of green tea and black tea on the blood pressure of individuals who were experiencing hypertension. Mahdavi-Roshan et al. (2020) found that regular tea intake resulted in the reduction of both systolic blood pressure and

diastolic blood pressure. In addition, they found that the longer duration of tea intake, the greater the decrease in both blood pressure levels, and that green tea was more effective than black tea in reducing the blood pressure levels. Mahdi-Roshan et al. (2020) noted that since black tea typically has more caffeine than green tea, and caffeine tends to increase arterial pressure, these facts might explain why green tea is more effective in lowering the individual's blood pressure.

Matsumoto et al. (2019) conducted a level 1 review of research results of 650 non-Hispanic whites from among the group who had also participated in the Adventist Health Study-2 study (AHS-2). The dietary patterns for the 650 AHS-2 recruits were grouped into four categories: vegans (no animal products), lacto-ovo (dairy products and eggs)-vegetarians, pesco (fish and seafood)-vegetarians, and non-vegetarians. The data that had been collected from the individual participants during the AHS-2 study included: fasting blood samples, biometrics, and percentage body fat measured by bioelectrical impedance. Similar data was collected from the same individual participants 1 to 3 years after enrollment in the AHS-2 and Matsumoto et al. (2019) evaluated those two sets of data to reach their conclusions. Matsumoto et al. (2019) concluded that the vegetarians had lower cardiovascular disease risk factor levels and less prevalent cardiovascular disease than the non-vegetarians. In addition, the vegans tended to have lower risk factor levels than the other two types of vegetarians.

Palacios and Maki (2019) conducted a level 1 review of research results by evaluating the results of 96 studies of 72,298 people followed for periods of 4 years to 21 years. The people included in these studies were from the United States, the United Kingdom, and Germany, and in the United States, Adventist Health Studies participants were included. Five dietary patterns were identified – vegans (no animal products), lacto-ovo (dairy products and eggs)-vegetarians, pesco (fish and seafood)-vegetarians, semi-vegetarian (small amounts of animal products) and

omnivores (animal products). The results indicated that all disease outcomes investigated were lower among vegetarians and vegans compared with the omnivores. Among vegetarians, the disease outcomes for ischemic heart disease were 25 percent lower. In addition, subgroup analyses showed that a vegetarian diet was significantly associated with a lower risk of all-cause mortality in U.S. Adventists with a 14-year follow-up. Palacios and Maki (2019) offered the possible explanation for this occurrence that many Adventists consume vegetarian diets and are characterized by lifestyle practices that are conducive to good health such as avoiding smoking, alcohol, and drug abuse; and obtaining regular exercise and adequate rest. Palacios and Maki (2019) also noted that several cardiometabolic risk factors were lower among the vegetarians, including lower values for body mass index, total and low-density cholesterol, triglycerides, and blood glucose.

### **Literature Synthesis**

The following authors supported the dietary improvement intervention. Che Wan Mansor et al. (2019) studied nine diets and concluded that the DASH diet, when combined with walking for 15 minutes per day for 5 days per week, was among the top three most effective diets to reduce hypertension. Mahdavi-Roshan et al. (2020) studied the effects of green tea and black tea in the reduction of both systolic blood pressure and diastolic blood pressure. They found that green tea was more effective than black tea in reducing the blood pressure levels. Matsumoto et al. (2019) concluded that the vegetarians had lower cardiovascular disease risk factor levels and less prevalent cardiovascular disease than non-vegetarians. Palacios and Maki (2019) concluded that a vegetarian diet was significantly associated with a lower risk of all-cause mortality in U.S. Adventists with a 14-year follow-up.

### **Theoretical Framework for the Project**

Lewin's Theory of Change and Roy's Theory of Adaptation were selected as the theoretical framework for this project. Lewin's model of change is comprised of three stages: unfreezing, change, and refreezing. Roy's model of adaptation addresses issues arising during the refreezing stage by applying Roy's adaptation steps of goal setting, nursing intervention, and final assessment. The following discussion demonstrates how these theories would be applied.

Hussain et al. (2018) explain that the successful process of unfreezing consists of persuading people that the intended change is preferable. This step is necessary because people do not welcome change unless they are convinced that their existing way of life is not successfully working for them. The first objective of the hypertension assessment and dietary intervention project was to convince the people who were hypertensive or pre-hypertensive that their existing lifestyle should be changed for their benefit and to enable them to reduce their elevated blood pressure to a safe range.

Hussain et al. (2018) explain that the successful change process involves obtaining the commitment of the people to provide input to the decisions that are necessary to affect the change. This step is necessary because the peoples' active role in the decision-making process contributes to their acceptance of the change process. In addition, Hussain et al. (2018) explain that the people who are going to be affected by the change need to be encouraged to share their knowledge of policies and procedures that can improve the final process that is being changed. The knowledge sharing is considered important for ensuring that many different actions are more fully explored. Hussain et al. (2018) also explain that leadership in the change process is necessary to inspire the people, to produce a vision, to manage the transition, and to maintain momentum. The goal of leadership is identifying the obstacles that need to be removed to

accomplish the change and then working with the affected people to accomplish the change. The second objective of the hypertension assessment and dietary intervention project was to obtain the commitment of the participants, by means of the consent-for-participation form, to contribute their knowledge regarding how the hypertension interventions could best be implemented. The third objective of the hypertension assessment and dietary intervention project was to solicit active participation in the discussions of the usefulness of the individual steps described in the presentations. The fourth objective of the hypertension assessment and dietary intervention project was to ensure that progress was maintained in each of the categories identified to accomplish the overall goal of reducing the participants blood pressure to a healthy range.

The fifth objective of the hypertension assessment and dietary intervention project was to assess the level of change that the participants experienced from the first day of the project to the last day of the project. The sixth objective of the hypertension assessment and dietary intervention project was to provide individual face-to-face consultations via telemetry and virtual modes between the author and the participants to identify relative individual accomplishments in relation to hypertension control of blood pressure through the proposed dietary intervention plan of this project. The seventh objective was to suggest maintenance steps that, if followed, could contribute to continued success in keeping the participant's blood pressure within a safe range.

Hussain et al. (2018) explain that the successful refreezing involves evaluating the level of success in reaching the desired goals, providing support to the people affected by the change in the form of acceptance, and providing leadership to promote and ensure continued success of the change. Louis (2019) explains that Roy's tools can be applied in this final refreezing stage by following three steps. First, goal setting by determining which behavioral changes need to be selected to adapt to the change. Second, nursing intervention by assisting in planning for the

change and developing a holistic care plan. Third, following-up to assess the degree of success achieved by the change and the usefulness of the holistic care plan (Louis, 2019).

### **Project Implementation**

The author submitted the Hypertension Assessment and Dietary Intervention project proposal to the IRB, which subsequently approved the project April 18, 2021 (Attachment K). During the months of June and July 2021, the author performed hypertension assessment and dietary intervention presentations in the form of health nuggets between 11:00 am and 11:15 am during four worship services. The purposes of the health nuggets were to familiarize the congregation to the overall burden of hypertension, its impact on cardiovascular diseases, the benefit of the DASH diet for treating hypertension, and to invite the congregation to attend a subsequent workshop to be hosted by the author. The purposes of the workshop were to demonstrate DASH diet servings, discuss the project, and recruit volunteer participants for the project. Twelve church members attended the workshop. As a result of the workshop, six church members agreed to participate in the project. Each of the individuals voluntarily signed a Consent for Participation in Research form (Attachment L) before the beginning of the project. Subsequently, two participants withdrew from the project because of work-life-balance issues. The intervention was conducted in a 4-week session. The author measured each participant's blood pressure on the 1<sup>st</sup>, 15<sup>th</sup>, and last day of the project. The blood pressure data obtained from each participant was recorded by the author and the changes were assessed and evaluated after the last day of the session.

### **Project Timeline**

The recruitment meeting hosted by the author was held on Sunday, July 25, 2021. The first day of the project was Sunday August 8, 2021. The fifteenth day of the project was Sunday, August

22, 2021. The last day of the project was Sunday, July 5, 2021. The project timeline included the author conducting a review of the Community Readiness to Change Questionnaire (Appendix I). This Survey was reviewed prior to the start of the Hypertension Assessment and Dietary Intervention project in week 1. In addition, in week 1, the author outlined the components of the project timeline to staff, interested participants and also for participants who had signed the Informed Consent to be a part of the Hypertension Assessment and Dietary Intervention. In week 1 the following activities were also conducted: 1) Distribution and review of the IRB Informed Consent Letter; 2) an overview of the Hypertension Assessment and Dietary Intervention project program; 3) the results of community surveys regarding interest in the DASH diet and blood pressure control through the use of the DASH diet 4) the author provided, staff, interested participants and consenting participants with educational materials about the benefits of the DASH diet and evidence-based information regarding the DASH diet being an effective diet to control blood pressure for the 4 week period; and 5) the author acknowledged the contributions of the National Diabetes Prevention Lifestyle Change Program in terms of providing educational materials, and for allowing intercollaborative care practices with respect to the use of the survey instruments in terms of allowing the author the use of survey instruments such as the 1) Readiness to Change Questionnaire (Appendix I) and 2) the Community Readiness Scoring Sheet (Appendix J). Blood Pressure monitoring was conducted by the author on a face-to-face basis for all participants who consented to be included in the Hypertension Assessment and Dietary Intervention program. The author also reviewed the importance of conducting proper blood pressure monitoring procedures with the staff and participants on weeks 1, 3, and 5 as indicated on the Hypertension Assessment and Dietary Intervention project timeline (Appendix M).

The author composed the Formative Survey (Appendix D) and the Summative Survey (Appendix E) questionnaires through applying information from and integration of the American Heart Association (2021) educational video library. The Formative Survey was distributed by the author to staff, interested individuals and participants in week 3 of the Hypertension Assessment and Dietary Intervention project timeline (Appendix M). The Summative Survey was distributed to staff, interested individuals and participants in week 5 of the Hypertension Assessment and Dietary Intervention project timeline (Appendix M). Additional staff meetings and updates were conducted in weeks 3, 5, and 7, respectively (Appendix M). The author conducted patient face-to-face interviews on weeks 1, 3 and 5 of the project timeline.

The author conducted program summaries, reviews, and blood pressure tabulation in week 8 of the project timeline (Appendix M). The draft report of the Hypertension Assessment and Dietary Intervention was also composed and is presented for review in week 8 by the author on the project timeline (Appendix M).

### **Project Budget**

The author identified the estimated direct and indirect costs of implementing the project. The direct costs of the project were initially estimated to be \$50.00 per participant for the 4-week session. The actual direct costs of each session were monitored and covered any costs associated with the following services and supplies; COVID-19 sanitization of the meeting site, equipment such as blood pressure monitoring cuffs and machines, computer laptops, xeroxing and distribution of hypertensive assessment computerized program sheets and flyers for the participants and other materials, diet-related supplies, nutrition logs and worksheets, questionnaires, and surveys. The author initially estimated that any actual or direct costs that exceeded \$50.00 per participant budget would be paid by the faith-based organization. The

actual direct costs were \$143.10. This equated to \$35.78 per participant. The indirect cost for this project was calculated to be the cost of operating the project in the space provided by the faith-based organization for 2 hours per meeting for 5 meetings at a cost of \$50 per hour for a total of \$500. The result was that the total cost of the project was \$643.10.

### **Instruments for Data Collection**

The author used primarily three instruments for data collection. The first instrument was the Blood Pressure Auditing Tool (Appendix C) which was used to record the data collected using a blood pressure cuff. The second instrument was the Formative Survey (Appendix D) which was completed by the participants on day 15. The third instrument was the Summative Survey (Appendix E) which was completed by the participants on the last day.

### **Data Protection**

The author protected the anonymity of each participant by storing all the files in a password protected format. In addition, the author was the only person who had access to the files. All the participants were assigned a project identification number and only those numbers were used in all data analysis files and reports. The author has planned to retain the data for 30 days beyond the date that the DNP program requirements are completed.

### **Human Subject Protection and IRB Approval**

The anonymity, privacy, and confidentiality of all participants in the project was protected with respect to the data collected. In addition, the signed informed consent form from each willing volunteer participant was enclosed in a sealed envelope after each participant was given a copy of their signed form. The author has planned to forward the completed consent forms to the Purdue University IRB according to the policy for IRB approval.

## Data Analysis

According to the AHA (2021), high blood pressure is defined as SBP of 130 or higher or DBP of 80 or higher. Elevated blood pressure is defined as SBP 120 to 129 and DBP of less than 80. Normal blood pressure is defined as SBP of less than 120 and DBP of less than 80.

This project was conducted for a convenience sample of four voluntary participants. The beginning blood pressure measurements on day 1 for the four participants ranged from SBP of 162 down to 104 and DBP from 107 down to 64. The ending blood pressure measurements on the last day for the four participants ranged from SBP from 145 down to 122 and DBP from 96 down to 64. For each of the participants, the author calculated the percentage of change for each participant as followed (day 3 divided by day 1 then subtracting 100 percent). The overall results of the blood pressure analysis for this project indicated that for the participants who were able to adhere to the DASH diet, their blood pressure was reduced (Appendix N).

For participant 1, the beginning blood pressure measurements were SBP 130 and DBP of 81, and the ending blood pressure measurements were SBP 128 and DBP of 80. The percentages of change for participant 1 were SBP a 3.08 percent reduction and DBP a 1.23 percent reduction. Participant 1 began the project with a slightly elevated blood pressure and ended the project within the normal range. Participant 1 also stayed on the DASH diet for the duration of the project.

For participant 2, the beginning blood pressure measurements were SBP 104 and DBP of 64, and the ending blood pressure measurements were SBP 122 and DBP of 73. The percentages of change for participant 2 were SBP a 17.31 percent increase and DBP a 14.05 percent increase. Participant 2 began and ended the project within the normal ranges. Participant 2 also stayed within the DASH diet with regards to types of food but varied occasionally with the serving sizes

of protein foods and sweets. In addition, participant 2 was taking prescribed medications for hypertension.

For participant 3, the beginning blood pressure measurements were SBP 152 and DBP of 68, and the ending blood pressure measurements were SBP 135 and DBP of 64. The percentages of change for participant 3 were SBP a 11.18 percent reduction and DBP a 5.88 percent reduction. Participant 3 began the project with a hypertensive DBP level and ended the project with a reduction in the hypertensive range. Participant 3 also stayed on the DASH diet for the duration of the project.

For participant 4, the beginning blood pressure measurements were SBP 162 and DBP of 107, and the ending blood pressure measurements were SBP 145 and DBP of 96. The percentages of change for participant 4 were SBP a 10.49 percent reduction and DBP a 10.28 percent reduction. Participant 4 began the project with a hypertensive level and ended the project with a reduction in the hypertensive range. Participant 4 was able to stay on the DASH diet for the most part and also began taking medication for hypertension reduction during the 4-week period of the project.

### **Project Sustainability**

The project was designed and documented in a way that it could be used anytime in the future within the guidelines of the time restraints described by the IRB and at different locations. The resulting data from different locations and time zones could be compared and analyzed for adherence Hypertension Assessment and Dietary Intervention project. The analyses could reveal any differences in blood pressure control rates and levels and could contribute to refining the overall effectiveness of the use of the DASH diet to mitigate the potential hypertensive impacts.

## **Project Evaluation**

Each participant's blood pressure was taken and recorded on the first day of the session. A daily DASH diet log was distributed to each participant on a weekly basis as a tool for monitoring their progress. Each participant's blood pressure was taken and recorded by the author, and each participant completed the Formative Survey at the end of two weeks. Each participant's blood pressure was taken and recorded by the author, and each participant completed the Summative Survey at the end of the 4-week session. The changes in the participants' blood pressure were determined and evaluated by the author (Appendix N).

### **Formative Evaluation**

Each of the three participants agreed or strongly agreed with all five of the topics in the formative survey. The overall result of the responses indicated that the participants were aware of the effects of hypertension on the human body and that use of the DASH diet could contribute to lowering blood pressure. The first topic was that high blood pressure, also known as hypertension, can cause heart attack, stroke, death, blindness, and or kidney damage. The second topic was that medication should be taken as prescribed by their physician. The third topic was that controlling blood pressure could play a significant part in successfully making lifestyle changes. The fourth topic was that the DASH diet could be used to lower blood pressure. The fifth topic was that hypertension is the force of blood pressing against the walls of the arteries.

### **Summative Evaluation**

Each of the three participants agreed or strongly agreed with all four of the topics in the summative survey. The overall result of the responses indicated that the participants agreed that monitoring and controlling their blood pressure was very important, and that the DASH diet could be an effective tool for lowering their blood pressure, The first topic was that an unhealthy

diet, including high salt intake and high cholesterol levels in the blood, can cause high blood pressure, heart attack, and stroke. The second topic was that a healthy diet can address hypertension and can help prevent heart attack, and stroke. The third topic was that monitoring and controlling blood pressure is extremely important. Fourth topic was that the DASH diet can be used to lower blood pressure.

### **Executive Summary**

The purpose of this project was to provide the DASH diet education as a health intervention to minimize the risk of individuals who were hypertensive or pre-hypertensive from experiencing a heart attack or stroke. The project was administered at a faith-based practice setting in Waldorf Maryland for individuals in the population at the faith-based practice setting who had been diagnosed with hypertension, or who could have been prehypertensive. In addition, the purpose of this project was to introduce the participants to the DASH diet, that could, if followed, improve the likelihood of overcoming the hypertension they were experiencing. The expected outcomes of the project were that the participants would experience a reduction of hypertensive blood levels to a safe range, and that they would adopt a healthy diet that would, if followed, contribute to the success in blood pressure control.

The project 4-week session was held from August 8, 2021 to September 5, 2021. The participants' blood pressure was measured three times – day 1, day 5, and the last day, and the changes in blood pressure during that time were calculated and evaluated at the end of the project. In addition, the participants were educated about the benefits of the DASH diet as a means of adopting a lifestyle change for successful blood pressure management.

The result of the project was that most of the participants experienced reduced blood pressure because of following the DASH diet. In addition, all the participants agreed that

monitoring and controlling their blood pressure was very important. All the participants also agreed that the DASH diet was an effective tool for managing their blood pressure.

### **Project Dissemination**

Dissemination of the information includes sharing project information and results through the completion of a scholarly written paper of the final project. In addition, the author will present the final project to key stakeholders. The author will also provide a written article suitable for publication after program completion that includes an abstract that can be submitted to an organization or conference for a poster or podium presentation.

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## APPENDIX A

## The DASH Diet



This diet was developed by NIH, National Heart Lung and Blood Institute, for preventing and managing high blood pressure and heart disease. It has also been found to be a good diet for preventing or managing diabetes and cancer, and for weight loss. By following the lower recommended number of servings daily, and skipping desserts, this diet provides about 1,500 calories daily. Coupled with daily exercise, this is about right for most persons to lose ½ to 1 pound of fat per week; a realistic goal.

Food Group	Servings per Day	Examples
<b>Fruit</b> (60 cal/serv)	4-5, 1 serv = 1 medium fruit, ½ cup frozen or cooked	Medium apple, orange, banana, peach, 2 apricots, 1 cup fresh berries, 1 cup cubed melons, ¼ C dried fruit, 6 ounces fresh juice (no sugar added)
<b>Vegetables</b> (35 cal/serv)	4-5, 1 serv = 1 cup raw, 2 cups salad greens, ½ cup cooked, 6 ounces juice	½ cup cooked zucchini, carrots, cabbage, small salad, 1 tomato, 2-3 spears broccoli, ½ C cooked spinach, 6 ounces low-sodium V8 juice
<b>Whole grains</b> (110-150 cal/serv)	3-4, 1 serv = 1 slice whole grain bread, ¾ cup whole grain dry or cooked cereal	1 slice whole grain bread, ¾ cup cooked steel cut oats, 2 corn tortillas, ½ C cooked whole grain pasta or brown rice, 5 crackers, ¾ cup cheerios, 2-3 C popcorn
<b>Low fat dairy</b> (90 cal/serv)	1-2, 1 serv = 1 C milk, soy milk, or yogurt, 1.5 ounces cheese	1 low-fat, low sugar yogurt, 1 cup non-fat milk, 1.5 ounces low-fat or almond cheese, ½ C low fat cottage cheese, 1 C sugar free soy milk
<b>Protein foods</b> (plant based preferred) (170 cal/serv)	2-3 serv of healthy proteins, (1 serv = at least 10-15 g of protein)	½ C tofu, 1 black bean burger, 1 vegetarian burger, 2/3 cup beans (black beans, garbanzos, lentils, etc.), 2-3 ounces nut loaf, 3 ounces fish, 3 ounces skinless poultry, 1 egg (limit egg yolks to 3-4 per week)
<b>Nuts and seeds</b> (170 cal/serv)	5 serving <u>weekly</u> , 1/4 cup nuts or seeds, 2 T nut butter	1/4 C cup unsalted almonds, walnuts, hazelnuts, peanuts, pecans, sunflower seeds, or flax meal, 2 T peanut or almond butter
<b>Fats, oils</b> (45 cal/serv)	2-3 teaspoons plant oils	1 tsp olive, soy, corn, sunflower, or avocado oil, 1 T salad dressing, ¼ medium avocado, ½ T low cal. tub margarine
<b>Sweets</b> (100 cal/serv)	1-2 servings per week	1 cookie, ½ cup sorbet, 6 ounces sweetened yogurt, berry dessert, baked apple, etc.

### Additional Guidelines:

- Limit sodium to 1,500 mg/day.
- Avoid solid fats.
- Limit late eating (after 7 pm).
- Avoid refined foods (white bread, snack foods, white rice, packaged foods, soft drinks, desserts).
- Drink primarily water, 5-8+ glasses daily.
- Choose primarily plant based foods. If you choose to eat meat, fish and skinless poultry are healthier choices than red meat. You can meet protein needs using all plant proteins including legumes (beans, peas, garbanzos, lentils), nuts, veggieburgers, falafels, tofu, and soy foods.
- Aim for 30-60+ minutes of moderate physical activity daily such as brisk walking, biking, swimming and active sports. Get your doctors guidance if you have diabetes or other chronic health problems.
- Get at least 7-8 hours of sleep daily. This helps weight management and improves overall health.

## APPENDIX B



Log daily servings for each food group and exercise time to track progress. Record your weight weekly.

Food Group	Servings per Day	Sun	Mon	Tue	Wed	Thur	Fri	Sat
(60 cal/serv)	4-5, 1 serv = 1 medium fruit, ½ cup frozen or cooked							
(35 cal/serv)	4-5, 1 serv = 1 cup raw, 2 cups salad greens, ½ cup cooked, 6 ounces juice							
(110-150 cal/serv)	3-4, 1 serv = 1 slice whole grain bread, ¾ cup whole grain dry or cooked cereal							
(90 cal/serv)	1-2, 1 serv = 1 C milk or yogurt, 1.5 ounces cheese							
(plant based preferred) (170 cal/serv)	2-3 serv of healthy proteins, (1 serv = 10-15 g of protein)							
(170 cal/serv)	5 serving weekly, 1/4 cup nuts or seeds, 2 T nut butter							
(45 cal/serv)	2 teaspoons plant oils							
(100 cal/serv)	5 or fewer serv/week							
Steps, or min.	30-60 minutes/day or 10,000 steps daily							

Weight \_\_\_\_\_

- Limit sodium to 1,500 mg/day.
- Avoid solid fats.
- Limit late eating (after 7 pm).
- Avoid refined foods (white bread, snack foods, chips, white rice, packaged foods, soft drinks, desserts).
- Drink primarily water, 6-8+ glasses daily.
- Choose primarily plant based foods. If you choose to eat meat, fish and skinless poultry are healthier choices than red meat. You can meet all your protein needs using plant-based proteins including legumes (beans, peas, garbanzos, lentils, edamame, hummus), nuts, vegeburgers, falafels, tofu, and soy foods.
- Aim for 30-60 minutes of moderate physical activity daily such as brisk walking, biking, swimming and active sports. Get your doctors guidance if you have diabetes or other chronic health problems.
- Get at least 7-8 hours of sleep daily. This helps weight management and improves overall health.

## APPENDIX C

## Blood Pressure Auditing Tool (HealthPartners)

Blood Pressure Audit Tool					
Use this tool quarterly for all nurses and medical assistants who take blood pressures.					
Employee Name: _____					
<b>Chart Audits</b>					
<ul style="list-style-type: none"> <li>Audit 5 patient charts who have a blood pressure of <math>\geq</math> 140/90. Review to ensure that a follow-up BP was taken and documented following appropriate blood pressure procedures.</li> </ul>					
	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
MRN					
BP Date					
Second BP Taken & Documented	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
Comments:					
Follow up needs					
<input type="checkbox"/> No follow up needed <input type="checkbox"/> Follow up needed in _____ to assess improvement <input type="checkbox"/> Improvement needs include:					
<b>Assessment Observation</b>					
<ul style="list-style-type: none"> <li>Observe one patient</li> </ul>					
Date of Observation: _____					
Task Assessed	Meets	Needs Improvement	Comments		
Initiates BP measurement at end of rooming process using Omron monitor after patient has had a period of rest. (5 minutes is best practice)					
Measures BP following established procedure: <ul style="list-style-type: none"> <li>Feet support flat on the floor</li> <li>Back supported</li> <li>Clothing removed where cuff is placed</li> <li>Selects appropriate cuff size</li> <li>Secures cuff so that 2 fingers can be inserted between cuff and arm</li> <li>Arm is supported and level with heart</li> <li>Remains quiet during measurement</li> </ul>					
Accurately records BP					
Repeats BP measurement if initial reading is 140/90 or greater. Has patient wait quietly for at least 5 minutes before retaking & records second measurement in "New Vitals."					
Follow up needs					
<input type="checkbox"/> No follow up needed <input type="checkbox"/> Follow up needed in _____ to assess improvement <input type="checkbox"/> Improvement needs include:					
Reviewer Signature: _____					



## APPENDIX D

### Formative Survey

Kindly indicate to what extent you agree or disagree with the following statements.

1. High blood pressure also known as hypertension can cause heart attack, stroke, or death

Strongly agree	Agree	Neutral	disagree	Strongly disagree		Comments

2. Hypertension can also cause blindness and or kidney damage

Strongly agree	Agree	Neutral	disagree	Strongly disagree		Comments

3. Medication for blood pressure should be taken as prescribed by your physician

Strongly agree	Agree	Neutral	disagree	Strongly disagree		Comments

4. Controlling blood pressure is important and can be a significant part of making lifestyle changes successful

Strongly agree	Agree	Neutral	disagree	Strongly disagree		Comments

5. The DASH Diet can be used to lower blood pressure

Strongly agree	Agree	Neutral	disagree	Strongly disagree		Comments

6. Hypertension is the force of blood pressing against the walls of the arteries in the body

Strongly Agree	Agree	Neutral	disagree	Strongly disagree		Comments

## APPENDIX E

### Summative Survey

Kindly indicate how you agree or disagree with the following statements.

1. There are four main behavioral risk factors for heart disease

Strongly agree	Agree	Neutral	disagree	Strongly disagree	Comments

2. An unhealthy diet is one main risk factor of heart disease including high blood pressure

Strongly agree	Agree	Neutral	disagree	Strongly disagree	Comments

3. A healthy diet is important to address hypertension, and can help prevent heart attack and stroke

Strongly agree	Agree	Neutral	disagree	Strongly disagree	Comments

4. Monitoring and controlling blood pressure is extremely important

Strongly agree	Agree	Neutral	disagree	Strongly disagree	Comments

5. The DASH diet can be used to lower blood pressure

Strongly agree	Agree	Neutral	disagree	Strongly disagree	Comments

6. High salt intake and high cholesterol levels in the blood can cause heart attack and stroke

Strongly agree	Agree	Neutral	disagree	Strongly disagree	Comments

**APPENDIX F**  
**Facility Approval Letter**

July 17, 2020

To whom it may concern:

Maxine Bennett has approval from Waldorf Seventh-Day Adventist Church site to develop and implement a Doctor of Nursing Practice (DNP) Project at this facility.



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Daniel Darrikhuma, MDiv  
Pastor of Waldorf Seventh-Day Adventist Church

Email: [daniel.darrikhuma@ccosda.org](mailto:daniel.darrikhuma@ccosda.org)  
Phone number: 301-535-3808

## APPENDIX G

## CITI Training Certificate

Verify at [www.citiprogram.org/verify/?w532315fb-aa27-434b-bbb2-ee85be430745-36043454](http://www.citiprogram.org/verify/?w532315fb-aa27-434b-bbb2-ee85be430745-36043454)



Completion Date 24-Mar-2020  
Expiration Date 24-Mar-2022  
Record ID 36043454

This is to certify that:

**Maxine Bennett-Marsh**

Has completed the following CITI Program course:

**Human Research** (Curriculum Group)  
**Group 2.SOCIAL** (Course Learner Group)  
**2 - Refresher Course** (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

**Purdue University Global**

**CITI**  
Collaborative Institutional Training Initiative

Verify at [www.citiprogram.org/verify/?w532315fb-aa27-434b-bbb2-ee85be430745-36043454](http://www.citiprogram.org/verify/?w532315fb-aa27-434b-bbb2-ee85be430745-36043454)

## APPENDIX H

### Recruitment Email

Dear Providers and Staff,

My name is Maxine Bennett and I am a doctoral student at Purdue University Global. I would like to invite you to a meeting to discuss my DNP Project. The project title is Hypertension Assessment and Dietary Intervention.

The meeting will take place starting at 3p on July 25<sup>th</sup>, 2021. It will be held in the conference room. Please reply to this email to confirm whether or not you will be able to attend the meeting by July 11, 2021.

I look forward to hearing from you.

Kind Regards,

Maxine Bennett, DNP Student

Email: [MaxineBennettMar@student.purdueglobal.edu](mailto:MaxineBennettMar@student.purdueglobal.edu)

## APPENDIX I

## Readiness to Change Questionnaire

*Where am I right now?*

Thinking about your physical activity and eating over the past three months, please answer the following questions. Please circle one number to indicate how strongly you agree or disagree with the following statements.

(Check "Don't know or refused" if you do not know or do not want to answer.)

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	Don't Know or Refused
I eat healthily.	5	4	3	2	1	
I get enough physical activity.	5	4	3	2	1	
I want to eat more healthily.	5	4	3	2	1	
I want to be more physically active.	5	4	3	2	1	

*How confident are you that you can make changes now?*

Please circle one number to indicate how confident you are that you can make the following changes.

(Check "Don't know or refused" if you do not know or do not want to answer.)

<u>Physical Activity:</u>	Sure I can	Think I can	Not sure I can	Don't think I can	Don't know or refused
Get physical activity more often	4	3	2	1	
Be physically active for longer time	4	3	2	1	

<u>Eating:</u>	Sure I can	Think I can	Not sure I can	Don't think I can	Don't know or refused
Eat more healthful food	4	3	2	1	
Oversat less often	4	3	2	1	

**APPENDIX J**

**Community Readiness Scoring Sheet**

Community: \_\_\_\_\_  
Date: \_\_\_\_\_  
Scorer: \_\_\_\_\_

**Individual Scores**

Interviews

**Dimensions**

	#1	#2	#3	#4	#5	#6
Knowledge of Efforts						
Leadership						
Community Climate						
Knowledge of Issue						
Resources						

**APPENDIX K****Institutional Review Board Approval Letter**

Institutional Review Board  
550 West Van Buren  
Chicago, Illinois 60607

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**Expedited Review – Final Approval**

April 18, 2021

Ms. Maxine Bennett-Marsh  
Purdue University Global

[maxinebennettmar@student.purdueglobal.edu](mailto:maxinebennettmar@student.purdueglobal.edu)

Re: Protocol #21-24 – **“Hypertension Assessment and Dietary Intervention.”**

Dear Ms. Bennett-Marsh:

Your proposed project was reviewed by the Purdue University Global Institutional Review Board (IRB) for the protection of human subjects under an Expedited Category. It was determined that your project activity meets the expedited criteria as defined by the DHHS Regulations for the Protection of Human Subjects (45 CFR 46), and is in compliance with this institution's Federal Wide Assurance 00010056.

Please notify the IRB immediately of any proposed changes that may affect the expedited status of your project. You should report any unanticipated problems involving risks to human subjects or others to the IRB.

If you have any questions or need additional information, please contact feel free to contact me at [spettine@purdueglobal.edu](mailto:spettine@purdueglobal.edu). I wish you well with your project!

Sincerely,

**Susan B. Pettine**

Susan B. Pettine, Ph.D.,  
CBM IRB Chair

Purdue University Global

cc: Dr. Rebecca Taulbee  
Dr. Amy Daly

## APPENDIX L

### Purdue University Global Consent for Participation in Research “Hypertension Assessment and Dietary Intervention”

#### CONCISE SUMMARY

The purpose of this research study is to introduce and monitor the use of the Dietary Approaches to Stop Hypertension (DASH) diet over a 4-week period of time and to measure the effectiveness of the diet in reducing high blood pressure at the end of the 4-week period. The research participants will complete a questionnaire on the 1st day, the 15<sup>th</sup> day and the last day. The research participants' blood pressure will be measured on the 1<sup>st</sup>, 15<sup>th</sup>, and last day by the researcher Maxine Bennett-Marsh. The research participants will complete a form daily for documenting the daily food group servings that they consume from the DASH diet and will also record their blood pressure daily. Meetings will be held 5 times over the 28-day period for 2 hours per meeting. The research study involves no risk/discomforts and/or inconveniences to the participants. The benefits of participating in the project include: reduced blood pressure levels, and knowledge of the DASH dietary lifestyle that can, if followed, enable the participants to reduce their elevated blood pressure to safe levels that can be maintained from then on.

You are being asked to be a participant in a research study, about reducing blood pressure by means of following the DASH diet, conducted by DNP student Maxine Bennett-Marsh at Purdue University Global and the Waldorf Seventh-day Adventist Church. You have been asked to participate in the research because you are a member of that church and you identified yourself as hypertensive or pre-hypertensive and may be eligible to participate. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with Purdue University Global or the Waldorf Seventh-day Adventist Church. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

The purpose of this research study is to determine the effectiveness in reducing blood pressure levels by means of following the DASH diet for the 28-day period of time.

If you agree to be in this study, you will be asked to do the following things:

- Have your blood pressure taken and recorded three times by the researcher.
- Follow the DASH diet for 28 days.
- Document in a log daily the food group servings consumed and your blood pressure.
- Complete a questionnaire three times during the study.
- Participate in discussions about adapting the DASH diet and the benefits of the diet.
- Meet with the researcher on the last day to discuss accomplishments and future plans.

Approximately 10 participants may be involved in this research at Purdue University Global and the Waldorf Seventh-day Adventist Church.

The research study involves no risk/discomforts and/or inconveniences to the participants. The benefits of participating in the project include:

Reduced blood pressure levels.

Knowledge of the DASH diet and how to use it in the future for lowering blood pressure.

The only people who will know that you are a research participant are members of the research team. No information about you, or provided by you during the research, will be disclosed to others without your written permission. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Results of the research will be kept on a flash drive with an encrypted password known only to the research manager. The flash drive will be kept in a locked cabinet accessed only by the research manager. Your responses to the questionnaires will be destroyed within 60 days after the study has been completed and accepted by Purdue University Global.

There is no monetary reimbursement for participation in the research.

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study.

The person implementing this research is Maxine Bennett-Marsh. You may ask any questions you have now. If you have questions later, you may contact her at 202-701-8732. The Purdue University Global DNP Faculty Mentor Dr. Rebecca Taulbee (614) 946-0775.

If you feel you have not been treated according to the descriptions in this form, or you have any questions about your rights as a research participant, you may contact the Institutional Review Board (IRB) at Purdue University Global through the following representative:

Dr. Susan Pettine, *IRB Chair*

Email: [spettine@purdueglobal.edu](mailto:spettine@purdueglobal.edu)

**Remember:** Your participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Purdue University Global or the Waldorf Seventh-day Adventist Church. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

You will be given a copy of this form for your information and to keep for your records.

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this project. I have been given a copy of this form.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature of DNP Student

\_\_\_\_\_  
Date (must be same as subject's)



## APPENDIX N

Hypertension Assessment and Dietary Intervention Project									
Percentage Changes in Blood Pressure Tabulation									
	Day 1		Day 15		Last Day		% Change (Last Day/Day 1)-1		Comments
	SBP	DBP	SBP	DBP	SBP	DBP	SBP	DBP	
Participant 1	130	81	122	83	126	80	-3.08%	-1.23%	From slightly elevated to normal range. Stayed on DASH.
Participant 2	104	64	114	74	122	73	17.31%	14.06%	Normal range. Stayed on DASH but varied serving sizes for protein foods and sweets occasionally. Also taking Rx for HTN.
Participant 3	152	68	128	72	135	64	-11.18%	-5.88%	Hypertensive with reduction in hypertensive range. Stayed on DASH.
Participant 4	162	107	154	98	145	96	-10.49%	-10.28%	Hypertensive with reduction in hypertensive range. Stayed on DASH for the most part. Also began taking Rx for HTN.