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Improving Nurses Knowledge of Hypertension & Self-Care in VA Telehealth Patients

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Walden University

College of Nursing

This is to certify that the doctoral study by

Rochelle Windley

has been found to be complete and satisfactory in all respects,

and that any and all revisions required by

the review committee have been made.

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Walden University

2022

Abstract

Improving Nurses Knowledge of Hypertension & Self-Care in VA Telehealth Patients

by

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MS, American Sentinel University, 2012

BS, University of South Carolina, 2002

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

Walden University

August 2022

Abstract

Management of hypertension (HTN) is essential to nursing practice. Clinical care home telehealth (CCHT) nurses should be assertive and competent to help patients self-manage high blood pressure in the comfort of their homes. Locally, it was noted that there was a gap in knowledge and skills of the CCHT nurses to deliver evidenced-based and consistent patient education to home telehealth patients. To address the gap, an online training program was developed to increase staff knowledge and skills in hypertension management to improve their ability to coach patients in self-care strategies. The online training program was based on the Eighth Joint National Committee (JNC-8) guidelines for HTN management. The health promotion model framework was used to assist nurses as a foundation for teaching self-care strategies to patients. The Kirkpatrick model was used to evaluate the overall reaction of health care providers for teaching learning methods and its effects on learning and behavior. Eighteen CCHT nurses participated in the educational program. A pre and posttest for the educational program was presented in an online format to nurses. Posttest and evaluation surveys were completed by 11 participants. The participants were well versed and appreciative. Posttest results supported that the online educational module could increase staff knowledge on HTN lifestyle modification which can in turn improve health outcomes for patients and families. The project accentuates a positive social change based on educational guidelines that will assure CCHT nurses will improve their knowledge -base as well as coach and help patients improve their lifestyle modifications.

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Dedication

I dedicate this project to my loving husband, George Jr. and to my two beautiful boys, George III & Gregory who has been a constant support and encouragement during the challenges of graduate school and life. A special feeling of gratitude to my loving parents Clifford and Carleatha Gaymon and my sister Kadeidre whose inspiring words touched my heart. Special thanks to Marcia Williams who is like a special sister to me. The level in which you have been an impact in my life is something I can't begin to measure. Family is a priceless gift, greater than anything I can imagine. Again thank you for your love and support.

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Section 1: Nature of the Project

Introduction

Continuing education for nursing staff is an ongoing requirement for practice and re-licensure. Nursing is a profession that relies heavily on education about their disease processes and safe care. A key responsibility of Veterans Affairs (VA) nursing education departments is to identify gaps in the current hospital-based staff education offerings. The continuing education programs align with current practices in the VA by utilizing the Patient-Centered Medical Home (PCMH) structure. The Clinical Care Home Telehealth (CCHT) nurse communicates with staff in the PCMH about each patient interaction to ensure providers are informed of knowledge deficits of the patient which were addressed during the patient encounters. A key strategy encouraged by the providers in the PCMH is to enable the patient to practice effective self-care strategies based on the quality of the patient education they receive from the CCHT nurse. According to Pourat et al. (2019), with PCMH, “use of both team-based care and patient-level strategies including hypertension self-management, health coaching, and home BP [*blood pressure*] monitoring, has been shown to improve BP control” (p. 418). Thus, in nursing, training about management of high blood pressure is an essential component, and it is necessary that CCHT nurses become assertive that nurses act competently during care of patients who needs help to self-manage high blood pressure. According to Fukada (2018), nurses require the essential knowledge and necessary skills to perform efficiently. One way to increase staff knowledge and skills in hypertension management is through an online training program.

Problem Statement

High blood pressure is when the force of blood causes an individual's blood pressure to push against the walls of the individual's blood vessels too high (American Heart Association, 2016). While the VA is a national leader in telehealth, little attention has been directed locally toward the point of care needs of home telehealth patients with hypertension who require increased coaching to improve self-care strategies. According to Engle et al. (2021), nurses are considered patient-centered direct care providers who apply evidence-based practices for quality improvement to aid individuals. Nurses can fill in the identified gap in practice to help patients prevent high blood pressure through gaining a greater understanding of management of hypertension through patient education on lifestyle changes.

The proposed educational program is intended to enable CCHT nurses to provide evidence-based patient education for home management of hypertension for nurses using telehealth. Bashir and Bastola (2018) noted that telehealth nurses have a role in telehealth to assist patients in self-management of their wellness and health (Shortliffe & Cimino, 2014 cited in Bashir & Bastola, 2018). Currently there is no statement in CCHT nurses position description directly mandating patient education, even though local antidotal evidence reveals being done. Not only are patients educated, but telehealth nurses are also providing daily monitoring of patient health leading to the benefits of immediate feedback for patients, family, and caregivers at this project site. The local problem is the lack of knowledge and skill of the CCHT nurses to deliver evidenced-based, consistent patient education for home telehealth patients.

Purpose Statement

The purpose of the DNP project is to develop a continuing education program collaboratively with the nursing education and staff development department to ensure CCHT nurses have the knowledge and skill necessary to enable patients to use evidence-based self-care strategies. Locally, hypertension is one of the top diagnosis-related groups or DRGs among veterans (O'Hanlon et al, (2017). According to Unger (2020), et al. high blood pressure remains the leading risk factor contributing to global disease burden, accounting for more than 10.4 million deaths in adults. Locally, the CCHT nurses have reported a lack of guidance to assist them in assessing patients for knowledge deficits. Without a consistent approach to this assessment, veterans will likely experience varying levels of patient education. CCHT staff nurses at the local medical center have identified they lack knowledge and skill necessary to provide patients with effective self-care strategies in the management of hypertension. This project will prepare the CCHT nurses to deliver consistent patient education for home telehealth patients.

Practice Focused Question

The practice-focused question that will be addressed in this project is: Will the implementation of an in-service training program for CCHT nurses improve their ability to coach patients with hypertension in self-care strategies?

Nature of the Doctoral Project

This is an educational doctoral project which seeks to bridge the gap in knowledge of the CCHT nursing staff and to develop an educational program on high blood pressure to their improved their ability to provide educational training for patients. Sources of evidence that will

be collected to meet the purpose of the project will include both a comprehensive literature review and the results of the proposed staff education to be discussed further in Section 3 of this proposal.

Mercer (2020) noted while face-to-face was long the norm for patient education, it has become less viable. Even nurses who do not work in home telehealth are providing education to patients via the increased use of patient portals (Jackson, et al. 2018). The resulting change in nursing practice could theoretically have a positive outcome for patients by increasing their self-adherence. The in-service program proposed for the CCHT nurse can ensure health care education necessary to improve self-care by patients and impact clinical outcomes. It is anticipated eliminating the gap in knowledge of CCHT nurses about how to educate hypertensive patients will enable them to stay current with the changes in patient self-care strategies.

A preliminary literature review was conducted via Walden Library. *Nursing* was used as the search subject, then searched using the Boolean/phrases and terms (*education OR knowledge deficit*) AND (*high blood pressure OR high blood pressure management*) AND (*telehealth*). Search results were limited to full text and peer reviewed scholarly journals. The criteria yielded 16 articles dated from 2017-2021. The articles were reviewed for relevance of telehealth nurses lack of education on high blood pressure. One article specifically addressed knowledge deficits that could affect blood pressure self-management (Jones et al, (2017). Studies have shown in-service training programs for nurses plays an essential role in improving the quality of patient care (Ming, et al, 2019; Jeffrey, et al 2016; Jones, et al 2017; The Diagnosis and Management of Hypertension, 2019).

The CCHT nurse retrieves data and health information that each veteran provides through personalized questions answered either on special equipment, by a veteran's phone or e-health technology equipment. Any abnormal health measurements recorded by the veteran will be acknowledged by the CCHT nurse, in addition conversed with their primary care provider. Education and innovative interventions are provided to the veteran to improve compliance and to adhere to their prescribed regimen of care for symptom management. Telehealth delivers veteran and family centered health care that connects veterans to their health care professionals, no matter the distance nor time.

Significance

There are several stakeholders who may be impacted by this project. This includes hypertensive patients, their families, nurses, and other health care professionals. The nursing staff will have an increase in confidence to fulfill an indispensable role in improving the quality and health standards in patients through in-service training. The VA offers staff the autonomy to develop and provide continuing education programs for nurses to promote lifelong learning and professional development. Patients and families will benefit from the education project by being empowered to improve management of hypertension using self-care care strategies taught by the telehealth nurse. I have met with the Associate Nursing Executive of Staff Education at the local VA Medical Center to discuss the approval of the project and how best to develop and implement it. Based on request the project will be framed using the Kirkpatrick model. The local VA medical center uses the Kirkpatrick model to develop in-service programs.

Contributions to Nursing Practice

Incorporating the use of home telehealth devices is congruent with implementing patient self-management skills is the beginning point for educating patients of their present state of health. Mileski shares that educating not only enhances the individual's knowledge of the disorder but allows for early recognition of health problems and aids the individual with instructive interventions (2017). Health care providers and nurses should be educated and deliver training that is ongoing for hypertensive patients that will inspire them to practice constructive health behaviors and help them have better control of their blood pressure (Oyewole, et al., 2019).

This goal can be achieved through daily telehealth monitoring with the support and teaching to adhere to the treatment regimen. Further, evidence confirms that teaching the patient lifestyle changes can improve an individual's hypertensive state (Cary, et al. (2018). According to JNC-VI modifications, lifestyle changes is key to preventing and controlling hypertension. These lifestyle changes include weight loss, increasing physical activity, decrease alcohol consumption, lower sodium intake, eating a well-balanced meal, and maintaining balance electrolytes of magnesium, calcium, and potassium.

Patient self-management skills (Cui et al, 2019) are an important part of hypertension management. According to Cui et al (2019), there is a lack of knowledge about the effectiveness of nurse-led education on patient self-management. Displaying lack of knowledge can make the patients feel overwhelmed according to the amount of material presented and the complexity of the tasks involved. Chalfont, et al, (2021) indicates to be successful in self-care and self-management skills, self-efficacy and motivation are critical components to promote a healthy lifestyle. This doctoral project seeks to bridge the gap to develop an educational component on

high blood pressure for patients that incorporate nurses and integrates team-based approaches on their educational training needs. It is anticipated eliminating the gap in knowledge of CCHT nurses about how to educate hypertensive patients would be accomplished with the development of this continuing education and in-service education program, which would enable these nurses to stay current with the changes in patient self-care strategies. (see Fatemeh, et al. 2019). The resulting change in nursing practice could have a positive social change for patients by increasing their self-adherence, thus promoting improved patient outcomes.

Summary

Educational support not only offer patients with critical disease-related information, but it can also encourage patients to take on a more effective role in their health. Unfortunately, several patients with high blood pressure find themselves without proper education. The lack of patient education can significantly reduce a patient's capability for self-management and can negatively affect the disease process (Mercer, 2020). Thus, nurses can fill in the gap to help patients prevent high blood pressure through education and lifestyle changes. In section 2, I will explore the context and background of the problem further to determine how it best fits into present-day research and into current clinical practice.

Section 2: Background and Context

Introduction

Nurses frequently are the first health professionals to identify hypertension and therefore have a vital role in communicating with patients and other health professionals to impose treatment guidelines through education and appropriate modification of the patient's treatment plan (Himmerlfarb et al., 2016). Nurses are not accountable for diagnosing the patient with high blood pressure but are responsible for ongoing communication and partnering with an interdisciplinary team for efficient care. To support the patient through the diagnosis phase, the patient requires knowledge of the science and processes necessary for stabilization of their blood pressure. Patient education is significant to the role of a nurse and is either strongly implied or directly stated in the nurse's scope of practice. Education enables patients to modify their health status for better progress. When patients apply self-care, they are more likely to take part in interventions that may intensify their chances for positive results.

This project will address the knowledge gap of the telehealth nurses by developing a continuing education program that this project will address the practice-focused question: Will the implementation of an in-service training program for CCHT nurses improve their ability to coach patients with hypertension in self-care strategies?

In Section 2, I will include a description of the theoretical frameworks that I will use to guide the project, literature that frames the relevance of this project in nursing, and the role I will play along with a project team.

Concepts, Models, and Theories

Framing the DNP project with conceptual models and theories about both the necessary content for the curriculum as well as the approach for the learners is a necessary step in developing an education program. Improvement of the value of life and self-efficacy of patients with hypertension is indispensable.

Pender's Model

The nursing model chosen for this project is Pender's Health Promotion Model (HPM). According to Chen & Hsieh (2021), managing an individual's health and being involved in health promoting activities can have a positive impact on health. The model used for evaluating the effectiveness of the training program will be the Kirkpatrick model which will be used to evaluate the overall reaction of healthcare providers for new teaching and learning methods and its effects on learning and behavior (Heydari, et al, 2019). The Health Promotion Model framework is used to assist nurses with understanding the major elements of health behaviors which are the foundation for teaching well-being and healthy lifestyles management to patients. (Hussein, et al. 2017, p.1) asserts that health education programs that raise cognizance of adults, the risk factors of high blood pressure and the disease process is necessary to empower and inspire them to adopt healthy lifestyles. The Health promotion model has been widely used for nursing research, education, and practice. Applying this theory and the body of knowledge through observation and research, CCHT nurses will be enabled to improve patient well-being by using self-care and positive health behaviors (Gonzalo, 2019). The project purpose can be achieved through teaching the nurses the strategies base on Pender's theory via telehealth monitoring and implementing the treatment regimen.

The Kirkpatrick Model of Evaluation

Changes in health care are consistently everchanging and training programs are essential to improve the quality of patient care. A model the VA has found to be beneficial to evaluate employee outcomes is the Kirkpatrick model. Donald Kirkpatrick developed the model in 1959 to evaluate relevant, engaging, and effective programs (The Kirkpatrick Model, 2019). Lack of education and training can lead to adverse events which can have a direct impact on healthcare (Farzi, et al, 2018).

The Kirkpatrick's model Levels 1 and 2 are used by the local VA because of the method's ability to determine the degree to which healthcare providers find training favorable, engaging, and relevant to their practice (Kirkpatrick Partners, 2022). Level 1 will measure how the participant reacts to the training whether it meets satisfaction or not. Level 2 will analyze if the participant truly understood the training by increasing their knowledge, skills, or experience. The goal of the Kirkpatrick model is to measure how the nurses feel about the program and whether it will identify potential gaps in their way of educating patients.

The scholarly articles of hypertension guidelines acted as the primary source of evidence for levels 1& 2 of Kirkpatrick's model. One article supported the use of Kirkpatrick's model implies that a training course substantially improved the nursing staffs' self-perception and confidence of the disease process (Ming, et al, 2019). Maintaining confidence in the professional development of nursing, nurses ensure that goals are met by transferring learning to behavior with demonstrating the value of education (Jeffrey, et al 2016).

Definition of Terms

The following definitions are provided to help the reader comprehend the terms referenced throughout this document.

Hypertension: Hypertension (HTN), also known as high blood pressure (HBP), is when the force of blood against the arteries in your body is so high enough that it can cause health issues (Centers for Disease and Control and Prevention [CDC], 2020a). High blood pressure is considered when the top number (systolic pressure) is 140 or higher and the bottom number (diastolic pressure) is 90 or higher and remains high overtime (“High Blood Pressure,” 2021).

Lifestyle Modifications: Involves a range of altering long-term habits such as changes in diet, limit alcohol consumption, weight reduction and increase in physical activity while maintaining this new behavior for a long period of time (Buda et al., 2017).

Home Blood Pressure Monitoring: Home blood pressure monitoring (HBPM) is an essential monitoring alternative for patients with a suspected white coat effect or masked hypertension.

Clinical Care Coordinator: A (CCHT) nurse that engages in telenursing practice to assess, plan, intervene, and evaluate the outcomes of nursing care, by using telemonitoring equipment (Edirippulige et al., 2017).

Dash Diet: Dash Diet aids in lowering blood pressure by providing additional nutrients as well as lifestyle modifications to help improve overall health. DASH stands for Diet Approaches to Stop Hypertension (Beckerman, 2021).

Relevance to Nursing Practice

The role of telehealth in patient care by nurses and physicians has dramatically increased at the Department of Veteran Affairs (VA) and nation-wide due to the rise of COVID 19. In the

VA, there was an urgency to increase access to telehealth services to aid people who required ongoing routine of patients who needed to remain in their homes due to the pandemic. Due to unprecedented times, telehealth has proven to be a lifeline for healthcare providers and patients (Verma, 2020).

The project is relevant to nursing practice in the VA because of the team approach used with the CCHT at center of telehealth direct care. According to Dan (2020), increasing patient awareness surrounding health-related topics such as high blood pressure can lead to increase consciousness of health and habits. Improving health literacy, patients can take a more active role in their health to make better informed decisions. Oyewole et al. (2019) suggested there was insufficient levels of patient knowledge and training of non-drug intervention to attain the definitive goal of improving health by managing hypertension. In other words, the insufficiency of knowledge about lifestyle alterations has been due to an absence of health seeking behavior of the patients or lack of sufficient data on the part of the health care personnel. The goal of this in-service program developed for this project is to improve the nurse's knowledge and thus, their ability to educate patients and assist them to understand strategies to improve their own self-care.

Local Background and Context

The context of the project will be in a telehealth department at a VA medical center (VAMC) in the Southeastern United States and in a state where hypertension have been diagnosed (SCDHEC, 2019). There are 18 CCHT nurses serving the patient population at the local VAMC. As of this writing there are over 700 patients in the Home Telehealth program who are diagnosed with high blood pressure. Patients interact with the CCHT nurse approximately 2-3 times per week and each contact can last 10-30 minutes. The local VA does not have measures

in the annual evaluation for nurses regarding patient education. Therefore, it is not monitored. I have informally observed the patient education efforts in my department and discussed them with my supervisor who concurs an evidence-based program is needed. A discussion with my CCHT supervisor about the need for this program was validated and approved in concept. Thus, developing an evidence-based educational program for local CCHT nurses to improve their knowledge and skills in strategies in promoting self-care management for patients with hypertension is anticipated to play an important role in helping patients manage this common disorder.

Role of the DNP Student

As project leader and program developer, my role as a DNP student is consistent with *DNP Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care* and *DNP Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health*. I am one of the 18 members of the CCHT team of nurse providers who deliver home telehealth interventions to patients with hypertension. According to the American Association of College of Nursing (2006), technology is the center focus of patient care. The DNP essentials prepares DNP students to apply information and patient care technologies to aid in practice leadership and clinical decision building (*American Association of College of Nursing, 2006*). I will avoid any bias by drawing from the evidence from research and clinical practice guidelines. There is a significant number of veterans who are diagnosed with hypertension within the home telehealth department and are managed collaboratively with the Patient-Aligned Care Team (PACT).

Summary

In Section 2, I described the background of the problem confronting telehealth nursing staff locally. The relevant results from my literature search revealed state of the art next steps to address educational program development in patient teaching for those experiencing hypertensive disease. In Section 3, I will describe the processes necessary to achieve IRB approval and implement the project.

Section 3: Collection and Analysis of Evidence

Introduction

The practice problem is the lack in knowledge for CCHT nurses to deliver consistent evidence-based education to patients with a diagnosis of hypertension. The purpose of the DNP project is to develop a continuing education program collaboratively with the nursing education and staff development department to ensure CCHT nurses have the knowledge and skills necessary to enable patients to use evidence-based self-care strategies. Little attention has been directed to the local VA toward the point of care needs of patients who require increased coaching to improve self-care strategies. Nurses can fill in the gap to help patients prevent high blood pressure through education and lifestyle changes. The practice-focused question, sources of evidence, analysis and synthesis, and the summary will be included in Section 3. Following IRB approval, the project will be implemented and evaluated.

Practice-Focused Question

Will the implementation of an in-service training program for CCHT nurses improve their ability to coach patients with hypertension in self-care strategies?

Evidence Generated for the Doctoral Project

I reviewed literature on relevant information on HTN, JNC 8 guidelines and was guided by the Kirkpatrick model to provide a foundation for developing the evaluation of the content for the online educational program. Walden library databases were used to conduct the search for information on the impact of patient education by home-telehealth nurses, hypertension and relevant conceptual models and theories to design the training module. These electronic databases included CINAHL, MEDLINE, and PubMed. Search term/Boolean phrase included

education AND nursing AND telehealth. The search included articles, journals, reports, and websites. Scope of the literature review ranged from the years 2002 to the current year, 2020. These data bases will continue to be the primary source of existing evidence.

The sources of evidence which will provide essential information for the creation of the program to provide CCHT nurses with sufficient knowledge to analyze and transform the knowledge into practice. The format and content of the educational program will be completed based on the guidelines and steps as prescribed in the Walden Manual for Staff Education, the recommendations in the Million Hearts Hypertension Control Change Package (2nd ed) from the CDC (2020b) and the recent national guideline from the VA and Department of Defense (DoD) entitled VA/DoD Clinical Practice Guideline for the Diagnosis and Management of Hypertension in the Primary Care Setting (2020). Consistent with the practices in the staff development at the local VA, the Kirkpatrick model of evaluation will be used to determine the effectiveness of the program. To evaluate and measure the efficacy of the program, five general base-knowledge questions will be sent via email to the CCHT nurses. Due to increase numbers of veteran's diagnosed with high blood pressure at the local VA Medical Center, constructing items for Kirkpatrick's Level 1 will measure the CCHT nurse's reaction of their enjoyment of learning the knowledge and skills the program is designed to teach. Level 2 will measure the commitment gained of CCHT nurses and if objectives were met. Learning theories can be utilized for educational training in which the primary purpose is to improve knowledge through teaching (Schunk, 2020).

Participants

There are 18 CCHT nurses at the local VA who will be invited to participate in the project. These CCHT nurses at the local masked site (agreement signed by me in the prospectus process) engage in telenursing practice to assess, plan, intervene, and evaluate the outcomes of nursing care, by using telemonitoring equipment. Study participation is voluntary, and participants will be given 3 days to complete the online service training program content. Evidence for this project will be the results of pre & post surveys based on Kirkpatrick's model for Level I and II. The surveys will be administered to the CCHT nurses before and after in-service training program (see Appendices A & B). The format for development of the program will be based on guidance provided in the *Walden University Manual for Staff Education Project* (Walden, 2019) as well as the guidelines for developing educational courses for the local VA Training Management Systems (TMS). The participants will evaluate the online training course (see Appendix B) at the end of the program.

Procedures

The intervention will be an online service training program targeted towards CCHT nurses. The training will consist of a PowerPoint presentation for the nurses on how to improve the management skills of hypertension in patients. The pre-test will be sent individually to the CCHT nurses via secure electronic communication. Instructions will be provided on how to complete and return the pre and posttest surveys. The proposed pre- and posttest survey questions are in Appendix A. Analyses of the result of the pre & post survey will be conducted using descriptive statistics.

After developing the curriculum and the evaluation tools based on the course outline in the appendix, the pre & posttest will be completed before the educational program and

immediately after it. The pre and posttest surveys include questions to assess participant's perceptions of their knowledge and confidence on hypertension management (see Appendix A).-I created the 5- knowledge related questions on high blood pressure based on CDC website to be used as part of the pretest and posttest surveys (see Appendix A). The participants will answer with a True/False response. It will take approximately 5 minutes to complete the pre and posttest surveys. Based on each participant learning capabilities it will take approximately 20 minutes to do the overall online training program. Completing the online course and returning the pre and posttest surveys will be implied consent from the participants for the information to be collected. The outcome of this educational intervention is to eliminate the gap in knowledge of CCHT nurses about educating hypertensive patients.

Protections

Both the VA and Walden IRB panels will review the proposal for approval to proceed. This project will be conducted following receipt of the Walden IRB approval. Participation is voluntary and confidentiality will be assured using the secure electronic methods provided by the VA. Completing the online course and returning the pre and posttest surveys will be implied consent from the participants for the information to be collected.

Analysis and Synthesis

The VA prescribed procedures that will be used in the doctoral project to address the practice-focused question to obtain an assessment of the participant knowledge through presenting a post-test survey that includes closed ended questions. VA tools are based on the Kirkpatrick model to evaluate the effectiveness of the learning experience of the program by creating surveys based on level 1 and 2 skill acquisition. Learners will be provided with the

opportunity to discuss their results whether remediation is required or not. The findings will be used to re-evaluate the content and processes used in the program and to revise the program as necessary. Microsoft Word and Microsoft Power-Point software will be used to develop, configure, and Microsoft Excel will be used to record and analyze the evidence of the in-service course using descriptive statistics. Microsoft Outlook including Microsoft Teams will be used as communication tools to converse with Walden expert panel and CCHT nurses. Information or data collected via CCHT nurses will be secured using encrypted email in Microsoft Outlook using VA software. Data obtained from the surveys as well of the use of names from the posttest will be secured using VA safeguarded computer processes.

Summary

Nursing is a profession that relies heavily on education, particularly the education of nurses as well as the education of patients about their disease processes and safe care. CCHT staff nurses lack the knowledge and skill necessary to provide patients with effective self-care strategies in the management of hypertension. This DNP project will address the need for CCHT nurses to improve their ability to coach patients with hypertension in self-care strategies. Section 4 will provide a report of the project findings with implications and recommendations for future activities to facilitate the management of hypertension among patients.

Section 4: Findings and Recommendations

Introduction

The local practice nursing problem was the lack of knowledge and skill of the CCHT nurses to deliver evidenced-based, consistent patient education for home telehealth patients. Locally, the gap was that CCHT nurses reported a lack of guidance to assist them in assessing patients for knowledge deficits. The practice-focused question is: Will the implementation of an in-service training program for CCHT nurses improve their ability to coach patients with hypertension in self-care strategies? The purpose of this doctoral project was to develop a continuing education program collaboratively with the nursing education and staff development department to ensure CCHT nurses have the knowledge and skill necessary to enable patients to use evidence-based self-care strategies. A meeting was held with the Nurse Executive of Education and Research department and insights were given on using Kirk Patrick model on how to assess the effectiveness of learning.

Development of the course content began after IRB approval. Walden ethics approval number for this project is 01-05-22-0573229. Consent was based on Walden University Manual for Staff Education Project (Walden University, 2019) and the pre-test was sent electronically via email to 15 CCHT nurses including the Nurse Manager and the Assistant Nurse Manager. The CCHT nurses that agreed to participate were given 3 days to complete and to send the results of the pretest electronically to the Committee Chair. A PowerPoint presentation was presented via Microsoft Teams and immediately after the presentation, a post-test and end of course survey was sent to the CCHT nurses via email. The findings were based on substantial not statistical

differences in the CCHT nurses level because of the low sample size. The results of the post test showed satisfaction of the CCHT nurses about the program itself.

Findings and Implications

The findings from the analysis and synthesis of the evidence were that the development of the online course program required consideration of various factors about the target audience. Local factors include the years of experience as a home telehealth nurse, lack of communication skills, and how knowledgeable the nurse maybe on how to manage hypertension. Patient factors that were considered were how many veterans with hypertension the home telehealth nurses took care of on a daily basis and their level of confidence in order to coach and provide self-care strategies on how to manage high blood pressure. On an average, the CCHT nurses can managed and interact with approximately 30-50 patients on a normal day. For this project, I sought to determine if the CCHT nurses' knowledge was increased after receiving an education on the PowerPoint presentation for hypertension management. Based on the Kirkpatrick model level one satisfaction was very high (Appendix A). The project was divided into 2 phases. Phase 1: administration of a pre-test survey. Phase 2: PowerPoint educational online training to the CCHT nurses. Phase 3: administration of post-test survey. Section 4 will discuss the project participation and implications for clinical practice.

Phase 1: Pre-test survey

The pre-test was given to 15 CCHT nurses which included 1 nurse manager and 1 assistant nurse manager via electronic email assessing their level of confidence and knowledge on educating patients and providing self-care strategies on hypertension management. Written instructions were given via consent to each participant to complete the anonymous survey and

return via email to my committee chair to de-identify names for confidentiality. The pre-test (Appendix A) included 2 questions related to self-assurance according to level 1 and level 2 of the Kirkpatrick model. The educational content on hypertension included (Questions 1-5), and at the end of the pre-test a question on how many veterans with hypertension does each CCHT nurse take care of on a daily basis. Evaluation of the pre-test returned revealed the following findings:

Level 1 & Level 2 Kirkpatrick Model

For the pre-test questionnaire there were 8 participants who took part in the pre-test survey. Of the 8 participants, 6 CCHT nurses completely agreed that they were confident in their knowledge and skills to coach patients with hypertension and educate them on lifestyle modifications (Appendix A). However, 2 of the participants had a low confidence level in their ability to coach patients on hypertension management (Appendix A). There were 3 of the 15 CCHT participants did not participate in any stage of the project. Four of the CCHT nurses did not return a questionnaire. Results from the returned questionnaire reflected CCHT monitor average CCHT nurse monitors an average of 30- 50 patients with hypertension daily. Survey questionnaire results indicated that all participants completely agreed upon being confident in educating as well coaching hypertensive patients in self-care strategies (Appendix B).

Patient Education and Self-Management (Questions 1 - 5)

There were 3 CCHT nurses who indicated they had insufficient knowledge of whether checking blood pressure was the only way to determine if it is too high. One participant was not sure if they could measure their blood pressure at home with a home blood pressure monitor. The majority of the CCHT nurses had insufficient knowledge on question no. 5 outlining the 3 goals

to improve hypertension according to the Surgeon General call to action (Centers for Disease and Control. (2020b).(Appendix A)

Phase 2: PowerPoint Educational Online Training

Prior to presenting the PowerPoint educational online training I thanked the CCHT staff for taking time out of their busy schedules to attend the training as well completing the pre-test within 2 days. After introducing the topic of education and facts of hypertension, JNC VIII lifestyle modifications, goals and strategies were initiated. I highlighted knowledge gaps to help prevent high blood pressure. I also used the opportunity to discuss Pender's and Kirkpatrick conceptual frameworks to assist CCHT nurses teaching mechanisms on high blood pressure. Following the presentation, the CCHT nurses did not have any follow up questions but gave feedback and made several comments in the chat section such as "very good information", "you did a great job", "I am so proud of you", " a well-developed theme", and "I commend you for your thorough work".

Phase 3: Post-Test Survey

Following the Power-Point presentation, I immediately sent the participants the post-test and evaluation survey via email. All post-test results were anonymous and sent via email to committee chair. The post-test questionnaire was identical to the pre-test questionnaire with the exceptions of a post training evaluation survey. All of the post-test and evaluation survey were returned and results are provided in (Appendix A). The post -test survey questionnaire indicated that 7 CCHT nurses were confident in themselves to coach patients on high blood pressure and educate them on lifestyle modifications. One participant was unsure of their confident skills and therefore had no opinion. Although, the CCHT nurses showed improvement in their knowledge

of patient education and self-management skills. None of the participants chose the incorrect answer of how to check blood pressure. Although, the post-test results indicated that the majority of the CCHT nurses still missed the Surgeon General call to action question outlining the 3 goals to improve hypertension. Additionally, one nurse did not answer the question about the Surgeon General call to action. The evaluation survey of Kirkpatrick level one indicated that the majority of the CCHT participants were satisfied with the overall training and would recommend the training to other colleagues. The results also specified that the participants were more knowledgeable and confident in their skills to educate patients on hypertension lifestyle modifications (Kirkpatrick level 2).

Recommendations

The educational module was created in response to the knowledge gap observed and reported among the CCHT nurses. The online training course will provide the CCHT nurses with education to teach and reinforce patients to use evidence-based self-care strategies. There were five True/False questions and each question were worth 20 points. The pretest and posttest results determined the learning gain using the following formula: $(\text{postlearning score} - \text{prelearning score} / 100 - \text{prelearning score}) \times 100$ (Brigham and women's Hospital, 2019). According to the formula there was a 38% learning gain (Appendix C). The feedback from the CCHT participants indicated that the online educational module can increase staff knowledge on HTN lifestyle modification which can in turn improve health outcomes for patients and families. It is thus, recommended that actions be undertaken by management to initiate educational guidelines that would include continuing nursing staff education on patient HTN management using JNC-VIII and outlining the Surgeon General goals and strategies to achieve success to

improve hypertension. Educational guidelines will assure that the CCHT nurses will improve their knowledge -base as well as coach and help patients improve their lifestyle modifications.

Strengths and Limitations

The strength of the online training included the comprehensive presentation of the project. The strength was approval from the participants with no recommendations for improvement. The online training post-test results provided from all CCHT participants showed improvement from the pre-test survey questionnaire. There may be limiting effects of the results of the study due to the level of varying experience and skills of the CCHT participants. Although, the willingness of the team to voluntarily participate and gain new knowledge of current educational guidelines is a significant strength of the study.

A limitation of the study was due to a small sample size of participants. The sample size limits the results of the CCHT general knowledge base of the management of hypertension. Although, despite the small sample size, the general purpose was educating the participants present and filling in the gap of the lack of guidance to assist them in assessing patients for knowledge deficits.

Section 5: Dissemination Plan

The results of the DNP project regarding the online continuing education program for hypertension are positive. The online education program would be appropriate for dissemination among other Veteran Affairs Home Telehealth departments who need a refresher on hypertension management. The content may also be relevant in local areas that hold educational programs on hypertension. Publication of the project to South Carolina Nurses Association will support ongoing education.

Analysis of Self

As a DNP scholar, practitioner, and project manager this project has been a positive growth in helping me to apply principles of evidence-base practice and address healthcare issues on high blood pressure. I have researched how to effectively educate CCHT nurses who lack knowledge on how to teach patients self-care management skills and being in compliance with JNC VIII guidelines. In conjunction with JNC VIII guidelines, *The Essentials of Doctoral Education for Advanced Nursing Practice* (American Association of Colleges of Nursing, 2006) gives a deeper understanding of technology in healthcare and equips nurses to partake in technological innovations and evaluate the effectiveness of healthcare outcomes. My role as a DNP has brought social change on the quality improvement of patient outcomes.

The completion of the project has been challenging, a learning experience, but yet rewarding. It was challenging in finding the time to commit in getting the overall required sections completed as well as reaching out to the appropriate individuals at my field site for IRB approval. My long-term goals is to consult with the CCHT nurses on current evidence-based practice guidelines and implementing patient education on the management of hypertension. The DNP project was

rewarding because I realize as an DNP scholar that sustainable success in life is not something built overnight but it is a lifelong process to go through.

Summary

Uncontrolled high blood pressure can cause a number of health issues if not medically treated with medications or lifestyle changes. Self-management and educational programs such as home telehealth can aid in the effectiveness of improving high blood pressure. Although, without the necessary skills for CCHT nurses to deliver evidence-based guidelines to patients a knowledge gap will remain. Therefore, this project will address the knowledge gap of the telehealth nurses by developing a continuing education online program. An education-based health promotion intervention used for this DNP project was Pender's Health Promotion model. Pender's model focused on promoting lifestyle factors such as getting adequate sleep, eating well balanced meals, following JNC-VIII guidelines, and limiting alcohol intake which can have a positive impact on health. The Kirkpatrick model played a significant role as well because it measured how the nurses felt about the program and whether it identified potential gaps in their way of educating patients. This project promoted autonomy for the CCHT nurses and has the potential to improve blood pressure control in patients.

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Appendix A: Pre and Posttest Survey

Please complete the following survey.

Please rate the following:

Item	1	2	3	4	5
I am confident about my skills to coach patients with hypertension in self-care strategies to managing hypertension. (K Level 1)					
I have knowledge on educating patients on hypertension and lifestyle modifications. (K Level 2)					

1 = *completely disagree*; 2 = *somewhat disagree*; 3 = *no opinion*; 4 = *somewhat agree*; 5 = *completely agree*.

Answer the following with True or False

1. Hypertension Control Champions also known as “Million Hearts” are clinicians that demonstrate excellence in hypertension control. *T or F*
2. Hypertension remains the leading public health threat. *T or F*
3. Since high blood pressure and/or elevated blood pressure has no symptoms, checking your blood pressure is the only way to know for sure whether it is too high. *T or F*
4. You can measure your blood pressure at home with a home blood pressure monitor? *T or F*
5. The Surgeon General Call to Action outlines 3 goals to improve hypertension goals across the United States: *T or F*

- A. Making hypertension a national priority and “galvanizing action” by both payers and employers to promote blood pressure control by eliminating co-pays for key medications or blood pressure monitors
- B. Creating community supports for hypertension control. Community-level investments in places to exercise, ride bicycles, and find affordable, healthy food, “should be a priority,” they wrote. Systems should be in place so that people with high blood pressure know where to go for help
- C. Providing the best care for patients with hypertension. The best health systems can achieve hypertension control rates of 40% or better, but this a team approach, standardization, metrics and accountability, and strategies for self-monitoring

Note. Questions 1 to 5 adapted from “Centers for Disease and Control. (2020b). High Blood Pressure.” <https://www.cdc.gov/bloodpressure/>,” by W. Student, 2020, *Journal of Academic Optimism*, 98, p. 11 ([doi.org/10.xxxxxxxx](https://doi.org/10.1002/aco.10000)). Copyright 2020 by Academic Publishing Consortium. Reprinted with permission.

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Appendix B: Training Summary Evaluation Survey

Posttraining Survey Evaluation

Please rate each question

Item	1	2	3	4	5
I would recommend the training course to colleagues					
The training met my expectations					
I am satisfied with the overall quality of the training					
I have knowledge on educating patients on hypertension and lifestyle modifications.					
The organizational culture contributes to my ability to learn about high blood pressure.					
I am confident about my skills on managing hypertension.					

1 = *completely disagree*; 2 = *somewhat disagree*; 3 = *no opinion*; 4 = *somewhat agree*; 5 = *completely agree*.

Appendix C: Learning Gain

Total number of participants = 8

N = number of participants who answered correctly for Pre & Post test

Item	Pre		Post	
	n	%	N	%
I am confident about my skills to coach patients with hypertension in self-care strategies to managing hypertension. (K Level 1)	6		7	
I have knowledge on educating patients on hypertension and lifestyle modifications. (K Level 2)	8		7	
Hypertension Control Champions also known as “Million Hearts” are clinicians that demonstrate excellence in hypertension control. <i>T or F</i>	8		8	
Hypertension remains the leading public health threat. <i>T or F</i>	8		8	
Since high blood pressure and/or elevated blood pressure has no symptoms, checking your blood	8		8	

