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Staff Education to Improve Staff Knowledge on Self-Care Management of Hypertension

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Walden University

College of Nursing

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Executive Summary: Staff Education Project
Staff Education to Improve Staff Knowledge on Self-Care Management of Hypertension

by

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Summary

This DNP staff education project focused on improving staff knowledge on self-care management of hypertension. The overarching patient care problem at the project site was uncontrolled hypertension among adult patients with lack of staff knowledge and confidence in delivering related patient education. Addressing uncontrolled hypertension is vital within nursing practice due to its impact on public health and the opportunity for a nurse-led evidence-based intervention to improve patient outcomes.

The practice-focused question for this project was: “In adults with uncontrolled hypertension, does staff education program on hypertension self-care management improve staff knowledge on how to educate patients on self-care management of hypertension?” The purpose of this doctoral project was to improve staff knowledge on self-care management of hypertension. Nurses are equipped to support the national hypertensive initiative through evidence-based strategies. Among hypertensive patients, self-care management is effective in reducing blood pressure.

The results were analyzed by comparing the pre- ($M = 93\%$; $SD = 8$) and post-knowledge assessment scores ($M = 96\%$; $SD = 8$), which revealed a small 3 percentage point increase in total score with a meaningful increase on two items that scored low at pretest. The implications to the organization included improving nurses’ knowledge in providing evidence-based education. The recommendations are for future ongoing staff training to sustain knowledge gain. This project has the potential to positively impact social change by empowering staff to treat and help patients to self-manage hypertension.

Background

The reason for this DNP staff education project was to increase staff knowledge on patient self-care management of hypertension to improve patient care outcomes. Hypertension in America remains a leading modifiable risk for stroke and cardiovascular disease among adults. Patient hypertension at this project site remains uncontrolled despite using current guidelines on effective treatment and patient lifestyle modification approaches.

The practice-focused question for this DNP project was “In adults with uncontrolled hypertension, does staff education program on hypertension self-care management improve staff knowledge on how to educate patients on self-care management of hypertension?” The purpose of this project was to provide staff with the knowledge and skills needed to effectively provide evidence-based education to patients on self-care management of high blood pressure, resulting in improved patient outcomes.

The practice owner of the DNP project site referenced the January 2025 patient data report, which indicated that about 23% of hypertensive patients have a blood pressure >130/80 mmHg. The American Heart Association (AHA) and the American College of Cardiology (ACC) guidelines recommended a targeted blood pressure goal of <130/80 mmHg (AHA, 2025). The clinic’s patient data fall short of the AHA and ACC blood pressure guidelines, indicating a gap in managing high blood pressure. While the team is committed to providing high-quality care, the practice owner expressed the need to implement evidence-based interventions to address the problem to meet the AHA and ACC guidelines for optimal blood pressure control.

The evidence in the literature indicates that self-care management of hypertension is a problem. According to Hussien et al. (2021), self-care habits among hypertensive patients are inadequate. Educating staff with current guidelines and evidence-based practices of self-care management of high blood pressure can assist them in teaching and supporting patients in achieving optimal blood pressure control. A systematic review and meta-analysis study by Foroumandi et al. (2020) shows that effective blood pressure control and increased patients' self-efficacy can be attained through a self-management education program. These findings are the driving force for implementing a targeted staff education program to tackle the identified practice problem. High blood pressure in America is a public health crisis, as the Centers for Disease Control and Prevention (2025) report that 119.1% adults in America are living with hypertension, and 45% experiencing uncontrolled high blood pressure. A randomized controlled trial by Ashraf et al. (2024) reveals that educational programs have shown great success in improving patients' knowledge and good blood pressure control. Educational programs on hypertension management have been effective in boosting patients' knowledge and attitude (Kurnia et al., 2020). High blood pressure prevention and control can be attained by improving patient knowledge and promoting self-care practices (Gebresilase et al., 2024). According to Van Truong et al. (2021), self-care management of hypertension demonstrates success and healthcare professionals should promote self-care management interventions. Nurse-led education and support programs enable patients to manage high blood pressure effectively (Kurt & Gurdogan, 2022).

The evidence collected for this staff education project was gathered through a comprehensive literature search utilizing PubMed and Google Scholar databases.

Thirteen articles were reviewed and critically appraised using the Johns Hopkins evidence-based practice model to determine the quality and level of evidence. Among these articles reviewed and appraised were four Level 1, one Level 2, and eight Level 3.

Staff Education Project Development

The staff participants in this project included five registered nurses who work in the clinic. All five participants who participated in the project attended the training and completed the pre- and post-knowledge assessment. The procedures used to develop this project were reviewing and synthesizing current literature on self-care management of hypertension. I developed the staff education content using the highest level of evidence from the literature reviewed. The staff education content was reviewed and validated by the project mentor, a Doctor of Nursing Practice (DNP), and a board-certified family nurse practitioner (FNP-BC), who served as the subject matter expert to ensure alignment with the clinic's standards and current evidence.

I developed a PowerPoint focusing on current guidelines and evidence-based strategies on hypertension self-care management. A brochure on "How to Manage Blood Pressure" (AHA, 2025) was distributed to staff to augment the education. This source ensures that the educational resources are evidence-based and aligned with the current standard guidelines. A pre- and post-knowledge assessment was developed, containing nine multiple-choice questions based on hypertension self-care management (see Appendix). The implementation for this project was conducted through in-person training that lasted for 25 minutes. The training followed a carefully scheduled process to ensure staff participation based on their availability and to minimize disruption of workflow. The participants voluntarily agreed to complete an anonymous pre-and post-knowledge

assessment via an online SurveyMonkey.

The process for collecting the pre- and post-knowledge assessment was through the administration of an online pre- and post-knowledge assessment survey, which took approximately 5 minutes for each participant to complete. These assessments served to evaluate baseline knowledge as well as the effectiveness of the education. The pre-knowledge assessment was administered before the training, and the post-knowledge assessment followed the training. No personal information or demographics were collected during this process to maintain participants' confidentiality. To keep the participants' pre- and post-knowledge assessment anonymous while still being able to compare the same participants' pre- and post-assessment, participants were advised to identify two unique numbers that they can remember and use on both pre- and post-knowledge assessments.

The analysis of this evidence included comparing the pre- and post-knowledge assessment results. The pre- and post-knowledge results were analyzed using the built-in analytic tools on SurveyMonkey. The results were compared using descriptive analysis to evaluate knowledge improvement.

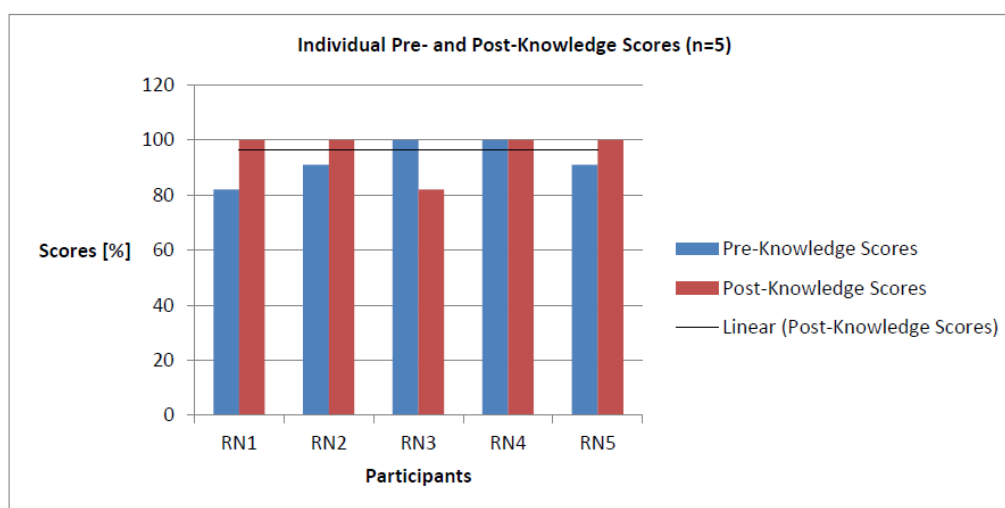
The data were evaluated using the following process of comparative analysis to evaluate the change in participants' knowledge of self-care management of hypertension before and after the training. The data were exported to a spreadsheet for a more organized and visual representation through a graph. This analysis helped establish the efficacy of the staff education program in improving staff knowledge on self-care management of hypertension.

Results

The results of this project were analyzed to determine knowledge gain by comparing the pre- and post-test scores. The correct, incorrect, and partially correct responses and the correct answers based on percentage for every question in the pre- and post-tests are illustrated in Table 1, along with the corresponding graph in Figure 1. The results revealed that the pre-knowledge assessment results average score was 93%, mean 93%, median 91%, and a standard deviation (*SD*) of 8. Comparatively, the average score for the posttest was 96%, mean 96%, median 100%, and *SD* 8. Before the training, staff baseline knowledge on normal blood pressure for adults according to AHA (Question 1) was limited, with an average score of 60% and complications of uncontrolled hypertension (Question 5) with an average score of 87%. There was an increase in staff knowledge after the training, with a notable rise in knowledge of normal blood pressure level (Question 1), from an average score of 60% to 80%, and complications of uncontrolled hypertension, from an average score of 87%-100%. These results indicate a meaningful improvement in staff knowledge on self-care management of hypertension. Although the overall trend in pre-and post-test scores shows an improvement in staff knowledge following the educational training, one participant (RN3) shows a lower score on the post-test than the pretest. This discrepancy may be attributed to several reasons, including test fatigue, external distraction during testing, or misinterpretation of the post-test questions. While this result was unexpected, it underscores the importance of reinforcing learning through follow-up training or additional support to ensure comprehension and knowledge retention.

Table 1*Comparison of Scores*

Respondents	Pre-survey Score	Correct	Partially correct	Incorrect	Post-survey Score	Correct	Partially correct	Incorrect	Total
Respondent #5	82%	7	1	1	100%	9	0	0	9
Respondent #4	91%	8	0	1	100%	9	0	0	9
Respondent #3	100%	9	0	0	100%	9	0	0	9
Respondent #2	100%	9	0	0	82%	7	0	2	9
Respondent #1	91%	8	0	1	100%	9	0	0	9

Figure 1*Pretest and Posttest Scores*

The impact of this project to the organization is improving the quality of care, enhancing staff knowledge in delivering evidence-based education, promoting patient engagement in their care, reducing emergency room visits and hypertension-related hospitalization, and ultimately improving patient outcomes. The improvement in knowledge gain on the post-knowledge assessment result supports the organization's goal of providing high-quality care. The limitations of this project included a small sample size and a single site. A smaller sample size of five can limit the generalization of results to other settings. The single-site setting may limit the results from being transferred to

other settings with different patient demographics or organizational culture.

This project has importance beyond the local project site because it addresses hypertension, which remains a major cause of preventable morbidity and mortality globally. This project can influence best practice by providing staff with training on current guidelines and evidence-based strategies on hypertension self-care management. Additionally, this project supports the national blood pressure goal set by the AHA, and the project has the potential to serve as a model for other primary care clinics in rural and underserved communities with similar practice problem.

Conclusions

The impact of this DNP project to the project site was meaningful in enhancing staff knowledge and self-confidence in delivering evidence-based self-care education to patients with high blood pressure. Through the educational training, staff demonstrate better understanding of hypertension self-care practices, including physical activity, eating a low salt diet, self-blood pressure monitoring, medication adherence, and routine follow-up visits. This increase in improved knowledge contributes to more consistent patient education, accurately measuring blood pressure for early diagnosis and optimal management, understanding signs and symptoms and complications of hypertension, improving patient-staff communication, and potentially improving patient outcomes. Future recommendations for this organization include the implementation of mandatory ongoing staff education training on self-care management of high blood pressure to sustain knowledge gain and ensure up-to-date self-care management of hypertension.

The potential implications of this project on nursing practice include improved nurses' competency in teaching patients about self-care strategies to manage high blood

pressure, leading to engaging patients in their care. Additionally, this project facilitates the integration of evidence-based practices into daily nursing practice. The real or potential impact of this project to effect positive social change includes empowering staff with the skills and knowledge needed to deliver current guidelines and evidence-based education, which can lead to better blood pressure control among hypertensive patients and reduced health disparities. This project promotes health literacy, reduces hypertension-related complications, and encourages patient autonomy by training nurses with the information and proficiencies needed to support patients in managing their condition.

References

- American Heart Association. (2025). *How to manage blood pressure*.
https://www.heart.org/-/media/Healthy-Living-Files/LE8-Fact-Sheets/LE8_How_To_Manage_Blood_Pressure.pdf?sc_lang=en
- American Heart Association. (2025). New high blood pressure guideline emphasizes prevention, early treatment to reduce CVD risk.
<https://newsroom.heart.org/news/new-high-blood-pressure-guideline-emphasizes-prevention-early-treatment-to-reduce-cvd-risk>
- Ashraf, T., Aamir, K. F., Nadeem, A., Hassan, M. U., Raza, H., Rauf, M. A., Din, J. U., Shah, S., Khan, F., Akram, Z., Ishaque, M., & Hanif, B. (2024). Impact of educational intervention on hypertension management by primary care physician: A randomized control trial. *PEC Innovation*, 4, 100285.
<https://doi.org/10.1016/j.pecinn.2024.100285>
- Centers for Disease Control and Prevention. (2025). *High blood pressure facts*.
<https://www.cdc.gov/high-blood-pressure/data-research/facts-stats/index.html>
- Foroumandi, E., Kheirouri, S., & Alizadeh, M. (2020). The potency of education programs for management of blood pressure through increasing self-efficacy of hypertensive patients: A systematic review and meta-analysis. *Patient Education and Counseling*, 103(3), 451–461. <https://doi.org/10.1016/j.pec.2019.09.018>
- Gebresilase, F. G., Bekele, Y. A., Gebremedhin, K. B., & Tolera, B. D. (2024). Knowledge and self-care practice among patients with hypertension in tertiary public hospitals of Addis Ababa, Ethiopia: A multicenter cross-sectional study. *International Journal of Cardiology Cardiovascular Risk and Prevention*, 23,

200333. <https://doi.org/10.1016/j.ijcrp.2024.200333>

- Hannan, J. A., Commodore-Mensah, Y., Tokieda, N., Smith, A. P., Gawlik, K. S., Murakami, L., Cooper, J., Koob, S., Wright, K. D., Cassarino, D., Arslanian-Engoren, C., & Melnyk, B. M. (2022b). Improving hypertension control and cardiovascular health: An urgent call to action for nursing. *Worldviews on Evidence-Based Nursing*, 19(1), 6–15. <https://doi.org/10.1111/wvn.12560>
- Hussien, M., Muhye, A., Abebe, F., & Ambaw, F. (2021). The role of Health care Quality in Hypertension Self-Management: A qualitative study of the experience of patients in a public Hospital, North-West Ethiopia. *Integrated Blood Pressure Control, Volume 14*, 55–68. <https://doi.org/10.2147/ibpc.s303100>
- Kurnia, A. D., Melizza, N., Ruhyanudin, F., Masruroh, N. L., Prasetyo, Y. B., Setyowati, C. I., & Khoirunnisa, O. (2020). The effect of educational program on hypertension Management toward knowledge and attitude among uncontrolled hypertension patients in rural area of Indonesia. *Community Health Equity Research & Policy*, 42(2), 181–188. <https://doi.org/10.1177/0272684x20972846>
- Kurt, D., & Gurdogan, E. P. (2022). The effect of self-management support on knowledge level, treatment compliance and selfcare management in patients with hypertension. *The Australian Journal of Advanced Nursing*, 39(3), 14–23. <https://search.informit.org/doi/10.3316/informit.630925372210228>
- Liu, X., Xiao, L., Li, H., Wang, J., Wang, W., & Zhang, Z. (2025). Effectiveness of self-management for hypertension patients and behavior changes in China: A systematic review and meta-analysis. *Advances in Interventional Cardiology*, 21(1), 15–24. <https://doi.org/10.5114/aic.2025.147975>

Van Truong, P., Apriliyasari, R. W., Lin, M., Chiu, H., & Tsai, P. (2021). Effects of self-management programs on blood pressure, self-efficacy, medication adherence and body mass index in older adults with hypertension: Meta-analysis of randomized controlled trials. *International Journal of Nursing Practice*, 27(2).

<https://doi.org/10.1111/ijn.12920>

Appendix: Pre-and Post-Knowledge Assessment

1. According to the American Heart Association, what is considered a normal blood pressure?
 - A. 140/90
 - B. 115/65
 - C. 150/90
 - D. 120/90

2. Patients can stop taking their blood pressure medication if
 - A. They don't have an appetite
 - B. Never
 - C. Advised by their friend
 - D. Feel well

3. Which of the following is not a risk factor for hypertension?
 - A. Obesity
 - B. Low-sodium diet
 - C. Tobacco use
 - D. Physical inactivity

4. Which location is most accurate for measuring blood pressure in adults?
 - A. Lower leg
 - B. Wrist
 - C. Upper arm
 - D. Location does not affect blood pressure results

5. Complications of uncontrolled blood pressure can result in. Select all that apply
 - A. Stroke and Heart Attack
 - B. Kidney disease
 - C. Depression
 - D. Sexual dysfunction

6. Before measuring a patient's blood pressure, healthcare professionals should ensure all the following, except.
 - A. The environment is quiet
 - B. Patient has a full bladder
 - C. The patient has rested for at least 5 minutes
 - D. The patient has not had caffeine, tobacco use, or exercise in 30 minutes before the blood pressure checked

7. Correct blood pressure monitoring includes all the following except
 - A. Arm supported
 - B. Crossed legs
 - C. Proper cuff size on bare skin

D. Rest arm on a flat surface at Heart level

8. All the following are important in managing high blood pressure except

A. Taking medications as prescribed by a healthcare provider.

B. Moderate tobacco use

C. Sleep well

D. Engage in physical activity

9. Which diet is recommended by the American Heart Association to manage hypertension?

A. Mediterranean diet

B. Vegetarian diet

C. DASH diet

D. Vegetables and processed meats

10. Please identify two unique numbers that you can remember and use on both pre- and post-knowledge assessments