5-30-2025

Hypertension Literacy for Healthcare Providers

Maninder kaur Dhaliwal
Walden University

Walden University

College of Nursing

This is to certify that the doctoral study by

Maninder Dhaliwal

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.

Review Committee
Dr. Kristina Bohm, Committee Chairperson, Nursing Faculty
Dr. Stacy Lourie, Committee Member, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2025

Executive Summary: Staff Education Project- Hypertension Literacy for Healthcare Providers

by

Maninder Dhaliwal

MSN, Walden University, 2022

BSN, Kurukshetra University, 2010

Executive Summary Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2025

Summary

When medical staff lack sufficient training in hypertension literacy, it significantly impacts patient outcomes, expenses, and quality of life. Uncontrolled hypertension increases health care costs by causing frequent emergency room visits and hospital stays. After a thorough needs assessment, it was identified at the project site that nurse practitioners were not knowledgeable on the most recent recommendations for managing hypertension and patient education techniques. This practice gap was also contributed to by a lack of structured training and time for learning. The practice-focused question for this project was: Among health care staff, how does implementing a staff education initiative on hypertension management, compared to current standard practice, affect provide knowledge of hypertension management? The purpose of this project was to increase provider health literacy through evidence-based practices, standardized education, and training.

The program featured interactive training sessions backed by the Hypertension Evaluation of Lifestyle and Management (HELM) knowledge evaluation tool to measure staff knowledge gains before and after the intervention. Five nurses completed both a pretest before and a posttest following the staff education program. The collected data were analyzed using descriptive and paired samples *t*-test statistics through the Statistical Package for the Social Sciences software. The findings reveal that provider competency increases through focused, easily accessible training as demonstrated by $p = .030$, implying the results are statistically significant. Providers' knowledge of managing hypertension, including lifestyle change counseling, guideline-based therapy, and patient

education that considers cultural sensitivity improved with potential to improve hypertension management leading to better patient outcomes.

Background

Knowledge gaps about hypertension and risk factors among health care providers are crucial markers of successful diagnosis, treatment, and prevention. Implementing preventive health measures that will reduce sickness in the future depends on knowledge. Any health promotion program must include specific context, information, awareness, perspective, and understanding of the target group to be successfully implemented; this is known scientifically as “health literacy” (Liu et al., 2021).

The needs assessment conducted at the beginning of this project revealed a lack of structured hypertension education for nurse practitioners, which indirectly contributed to increased health care costs, emergency department visits, and patient hospitalization. I proposed and implemented a systematic, evidence-based literacy educational intervention that aimed to improve hypertension management by increasing health care workers’ knowledge and confidence and close this gap. The project question was: How does implementing an evidence-based hypertension literacy education program for health care providers, compared to current standard practice, affect provider knowledge of hypertension management in a primary care setting? The practice change would encourage the consistent application of clinical standards and address the observed provider hypertension knowledge gap.

Research has demonstrated that provider-centered training initiatives result in better patient counseling, better blood pressure control, and more adherence to lifestyle changes (Laranjo et al., 2024). Strong evidence from peer-reviewed publications and

clinical guidelines highlighting the value of provider education in enhancing hypertension outcomes supports the practice change (Dang et al., 2023). The evidence's strength ranged from Level I to Level V, with systematic reviews and randomized studies providing the strongest support (i.e., Level I–II evidence) and expert consensus and observational data providing a lower level of evidence (i.e., Level III–V) using the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) Evidence Level and Quality Guide (Dang et al., 2023). These sources consistently demonstrated the beneficial effects of provider education on patient outcomes and hypertension control. I conducted the pre- and posttests using the HELM tool, which is a validated tool in clinical and used for evaluation and as an educational framework (see Thompson et al., 2020). The HELM Knowledge Scale is used to assess a variety of hypertension-related subjects, such as measurement and treatment objectives, medication and lifestyle management, and general hypertension knowledge.

Staff Education Project Development

The participants included five licensed nurse practitioners at the practicum site. There were three male and two female participants, ranging in age from 32 to 51 years old. The group was made up of three African American participants, one White person, and one European American provider, which was diverse in gender and race. I began the project by first outlining the objectives and purpose of the hypertension literacy effort. A preintervention knowledge evaluation was conducted using the HELM tool to create a baseline of participant knowledge on hypertension, management strategies and guidelines, and culturally sensitive patient communication and education. After that, participants took part in an evidence-based education session that included lifestyle

change counseling, culturally competent patient education techniques, and current hypertension recommendations. The same HELM instrument was used again to perform a postassessment to gauge participants' knowledge gains after the training. I also gathered feedback to evaluate the training's viability, applicability, and relevance to routine clinical practice. Participants' active participation was guaranteed by this collaborative approach, which also facilitated the incorporation of instructional materials into standard care procedures.

After the assessment, I carried out the evaluation process, which entailed assessing participant knowledge improvement through pre- and postintervention HELM scores and measuring training effectiveness and practicality through participant feedback. The evaluation process confirmed the feasibility and impact of the structured, evidence-based hypertension literacy program; hence, I concluded that the educational intervention was a success. Additionally, in the evaluation, participants expressed interest in continuing education options and reported feeling more confident when implementing evidence-based methods in hypertension management.

Results

The participants' pretest mean score was 10, while their posttest mean score increased to 13.40 (see Table 1), indicating a substantial improvement following the hypertension literacy project. A paired samples *t* test revealed a statistically significant score improvement ($p = .030$). I confidently concluded that the education intervention successfully increased participant knowledge about hypertension because there was only a 3% probability that this change resulted from random fluctuation ($p = .030$). These findings highlight a significant difference in participant scores before and after the

intervention, demonstrating that nurses gained considerable knowledge through participation in the education program.

Table 1

Pre-/Posttest Mean and p *Value*

Participants	Pretest mean	Posttest mean	*p* value
5	10	13.40	0.03

The implementation of the hypertension literacy education program had a positive impact on the organization by improving nurse practitioners' knowledge and confidence in managing hypertension. A knowledgeable and confident health care staff can improve treatment compliance, patient outcomes, and organizational efficacy (Andrew et al., 2022). The significant improvement shown by participants' postintervention scores indicated the project's effectiveness and would serve as a reference for similar educational initiatives in the future. The improvement from this project suggests that the organization can incorporate similar educational projects, promoting evidence-based practice and continuous learning.

The project also supported organizational goals around employee satisfaction and confidence. Verulava et al. (2024) stated that satisfied, confident employees benefit health care organizations since their involvement is directly linked to better organizational goals. Contented health care professionals are more productive, have decreased turnover rates, and provide better patient care (Mansour & Chênevert, 2024).

Additionally, the project led to better hypertension management by health care providers, which meant better patient health outcomes, thus lowering costs for the organization. The organization will reduce costs on hypertension-related admissions to

hospitals and emergency room visits, extended hospital stays, long-term usage of expensive drugs and treatments, consultations with specialists, and aftercare.

Two limitations may have impacted the results of this project. The limited sample size constrains the results' applicability to a broader population ($N = 5$). Even if there are statistically significant improvements, the benefit of an intervention would be better demonstrated by a more substantial population (Cash et al., 2022). The second limitation was that the project was conducted in a short timeframe. This made it impossible to collect data on participants' long-term retention of the knowledge gained.

Beyond the local site, the project was significant because hypertension is a global public health issue. Gaps in provider knowledge can cause poor management of hypertension. This initiative provides a scalable and economic model that other primary care clinics can use and showed that a quick, focused education intervention can significantly increase health care personnel's knowledge. There has also been a global effort to standardize hypertension management, and the findings of this project support these efforts that aim to lessen the burden of chronic diseases (see Levine, 2021). Expanding this intervention can support and promote positive practice change at the national level.

Conclusions

This hypertension literacy education effort greatly impacted the project site organization by raising provider awareness, encouraging evidence-based hypertension management, and improving patient care. The quantifiable improvement in participant postintervention scores showed how well-focused instruction worked to address health care workers' knowledge gaps. These enhancements promote better clinical results,

reduce the chance of complications from hypertension, and lower long-term costs by reducing hospital stays and improving patient care. I would recommend implementing refresher training to ensure that health care providers stay updated on hypertension management. I would also recommend adapting the same project structure especially the health literacy for healthcare providers be employed to prevent other chronic diseases, such as modifying the education content to address diabetes or any other chronic disease.

Additionally, I would encourage the project to involve other health care disciplines, such as pharmacists and nutritionists, which will promote a team-based approach to hypertension management. This hypertension literacy project has had meaningful implications for the nursing practice by emphasizing the role of nurses as advocates, educators, and frontline providers in managing hypertension and chronic diseases. Nurses' improved knowledge promotes the delivery of patient-centered and evidence-based care. According to Sells et al. (2023) hypertension disproportionately affects Latinos, Blacks, and low-income communities, and this project would equip health care providers with expertise to offer culturally competent care, promoting health equity and reducing health disparities.

References

Andrew, A., Hariharan, M., Monteiro, S. R., Padhy, M., & Chivukula, U. (2022). Enhancing adherence and management in patients with hypertension: Impact of form and frequency of knowledge intervention. *Indian Heart Journal*, *74*(4), 302-306. https://doi.org/10.1016/j.ihj.2022.06.002

Cash, P., Isaksson, O., Maier, A., & Summers, J. (2022). Sampling in design research: Eight key considerations. *Design Studies*, *78*, 101077. https://doi.org/10.1016/j.destud.2021.101077

Dang, D., Dearholt, S. L., Bissett, K., Ascenzi, J., & Whalen, M. (2021). *Johns Hopkins evidence-based practice for nurses and healthcare professionals: Model and guidelines*. Sigma Theta Tau.

Laranjo, L., Lanas, F., Sun, M. C., Chen, D. A., Hynes, L., Imran, T. F., & Chow, C. K. (2024). World Heart Federation roadmap for secondary prevention of cardiovascular disease: 2023 update. *Global Heart*, *19*(1), 8. https://doi.org/10.5334/gh.1278

Levine, R. L. (2021). Healthy People 2030: A beacon for addressing health disparities and health equity. *Journal of Public Health Management and Practice*, *27*(Supplement 6), S220-S221. https://doi.org/10.1097/PHH.0000000000001409

Liu, C., Wang, D., Liu, C., Jiang, J., Wang, X., Chen, H., & Zhang, X. (2020). What is the meaning of health literacy? A systematic review and qualitative synthesis. *Family Medicine and Community Health*, *8*(2), e000351. https://doi.org/10.1136/fmch-2020-000351

Mansour, S., & Chênevert, D. (2024). Working conditions, well-being, and retention of healthcare personnel: A comparative study between lean healthcare and nurse-to-patient ratio. *International Journal of Healthcare Management*, 1-8. https://doi.org/10.1080/20479700.2024.2392425

Sells, M. L., Blum, E., Perry, G. S., Eke, P., & Presley-Cantrell, L. (2023). Excess burden of poverty and hypertension, by race and ethnicity, on the prevalence of cardiovascular disease. *Preventing Chronic Disease*, *20*, E109. https://doi.org/10.5888/pcd20.230065

Thompson, N. J., Nguyen, M., Fullin, K. C., Maas, K., Groth, C., & Ames, D. (2020). Evaluation of an interdisciplinary group education curriculum for hypertension. *Journal of Interprofessional Education & Practice*, *21*, 100376. https://doi.org/10.1016/j.xjep.2020.100376

Verulava, T., Barkalaia, T., & Chiladze, G. (2024). Work motivation and job satisfaction among primary healthcare workers in Georgia. *Hospital Topics*, 1-9. https://doi.org/10.1080/00185868.2024.2383909

Appendix A: Handout on Hypertension Management

Definition of Hypertension

- Hypertension, or high blood pressure, is characterized by a persistently elevated force of blood against the arterial walls. Serious health issues may result from this elevated pressure if it damages the heart and blood vessels over time. According to Rossi et al. (2020), the diagnostic criteria for hypertension is
- Normal blood pressure has a systolic pressure of <120 mm Hg and Diastolic pressure of <80 mm Hg.
- High blood pressure: 120–129 mm Hg at the diastolic level and less than 80 mm Hg.
- Stage 1 hypertension: systolic pressure 130 to 139 mmHg and diastolic pressure 80 to 89 mmHg
- Step 2 hypertension: diastolic pressure 90 mm Hg or systolic pressure 140 mm Hg.
- Hypertensive crisis: Systolic pressure >180 mm Hg and Diastolic pressure >120 mm Hg, necessitating emergency medical care.
- There are two types of hypertension: Primary (Essential) Hypertension and Secondary Hypertension. Jamerson (2020) defines it as the most prevalent kind with no known etiology but as one linked to diet, genetics, and lifestyle, contributing to its long-term development. At the same time, secondary hypertension is caused by underlying conditions such as hormonal disorders, certain diseases, and medications.

Clinical Practice guideline for hypertension

- The first step is to evaluate and diagnose, do a history and physical examination, and order diagnostic tests.
- If hypertension is diagnosed, the patient's condition can be managed through non-pharmacological management, such as Lifestyle Modifications or pharmacological intervention.
- Non-pharmacological interventions include a DASH diet, weight reduction, stress management, encouraging more physical activity, encouraging the reduction of alcohol, and ceasing smoking (Maniero et al., 2023).
- Pharmacological intervention would include starting the patient with first-line hypertension medications such as calcium channel blockers such as amlodipine, ACE inhibitors such as lisinopril or ARBs such as losartan, and Thiazide diuretics such as chlorthalidone (Noone et al., 2020).

Taking hypertension measurements right

- There are multiple ways to measure blood pressure: continuous non-invasive methods like the vascular unloading technique, also known as "finger-cuff technology," intermittent non-invasive measurements using oscillometry, or continuous invasive methods like an arterial catheter, also known as "direct" BP measurement (Saugel et al., 2020). The correct BP monitoring technique is crucial since it immediately affects clinical judgment. Intermittent non-invasive oscillometry measurements reveal clinically significant differences compared to ongoing invasive measures using an artery catheter.
- The World Health Organization states that superior health technologies, such as BP devices with accuracy validation, are essential for efficient universal health

care delivery. A summary of the benefits and drawbacks of the various non-invasive blood pressure device types is provided in the figure from the WHO report (John et al., 2021). A quiet, comfortable measurement environment, consistent use of a recommended standardized measurement technique, proper position for example, seated, feet flat on the floor, back supported, arm supported at the level of the heart, appropriate equipment such as correct cuff and intact tubing, and proper patient preparation such as no talking, resting with an empty bladder, and no exercise or tobacco/caffeine use in prior 30 minutes are other crucial elements of an accurate blood pressure assessment.

- Accurate blood pressure monitoring is crucial for diagnosis and guidance when starting the medicine and adjusting dosage, among other treatment considerations (Rabi et al., 2020). Appropriate medical care is severely hampered by the lack of access to reliable, reasonably priced blood pressure monitors, especially in settings with limited resources.

Follow-up and monitoring

- After the initial diagnosis and start of treatment, the patient should make a follow-up appointment every two to four weeks until they achieve the set target. Then, follow-up appointments should be started every three to six months.
- Medication should be monitored for adherence and side effects such as electrolyte imbalance from the use of diuretics (Jones et al., 2021).
- Patients should be regularly monitored for any signs of complications, such as cerebrovascular events and renal impairment.

Appendix B: Pre-Post Test Assessment Questionnaire

HELM QUESTIONNAIRE TO BE ADMINISTERED TO THE FACILITIES' HEALTHCARE PROVIDERS

Part A: Blood Pressure Measurement Guidelines

1. Which technique is advised for taking a patient's blood pressure in a clinical setting?
   a) When taking blood pressure readings, use the same arm
   b) Measure the patient's blood pressure when they are standing upright.
   c) Take two readings, one minute apart.
   d) Give the patient some water to drink before taking their readings.

2. Among the following blood pressure readings, which is classified as Stage 2 hypertension?
   a) <120 / <80 mmHg
   b) 130-139 / 80-89 mmHg
   c) 120-129 / <80 mmHg
   d) ≥140 / ≥90 mmHg

Part B: Lifestyle Modifications for Hypertension Management

3. Which lifestyle advice would you give your patients to help them reduce their blood pressure?

   a) Reduce carbohydrate intake
   b) Reduce alcohol consumption
   c) Add more sodium to their meals
   d) Get adequate sleep

4. For hypertensive patients, how much is their daily recommended sodium)

   a) 1500mg
   b) 4000mg
   c) 2000mg
   d) 3000mg

Part C: Antihypertensive Medications and Adherence

5. Which among the following is used for first-line treatment of hypertension?

   a) Beta-blockers
   b) Diuretics
   c) ACE inhibitors
   d) Statins

6. what would you recommend as a healthcare provider for a patient who complains of a persistent cough while on Lisinopril?

a) stop all medications they are taking
b) start them on antitussive medication
c) increase Lisinopril
d) Stop the Lisinopril and start the patient on ARB

Part D: Patient Education and Engagement

7. If your patient has been able to control their blood pressure levels, how often should you schedule a follow-up appointment for them?

a) once a year

b) once every 2-3 months

c) every 3-6 months

d) Ask them to come in when they need to see their healthcare provider.

8. Which of the following would encourage a patient to take an active role in managing their hypertension the most?

a) “You have no choice but to take these pills for the rest of your life.”

b) “As long as you take your medication, you do not have to worry about what you eat.”

c) “Your blood pressure will normalize; give it some more time”

d) “What challenges are you facing in managing your hypertension?”

Part E: Complications associated with hypertension

9. A patient who has poorly managed hypertension is likely at risk of

a) Stroke

b) diabetes mellitus

c) Cancer

d) Chronic obstructive pulmonary disease (COPD)

10. what is silent hypertension

a) Erratic blood pressure readings during the day, varying from normal to high.

b) High blood pressure that causes damage without noticeable symptoms.

c) A brief spike in blood pressure brought on by anxiety or acute stress and has no lasting repercussions.

d) Hypertension is identified by 24-hour ambulatory monitoring and is exclusive to the night.

Part F: Monitoring Hypertension

11. When is it appropriate to recommend ambulatory blood pressure monitoring (ABPM)?

a) for masked or white coat hypertension

b) for all hypertension patients

c) for patients whose hypertension medications are not working

d) when doing routine checkups for all patients.

12. If a patient has uncontrolled hypertension, they are likely to develop

a) stroke

b) Atrial fibrillation

c) Nose bleeds

d) Chronic obstructive pulmonary disease (COPD)

Part G: Evaluation of Hypertension Outcomes

13. How can you assess a hypertension management program's efficacy?

a) Number of patients seen

b) Type and number of medications prescribed.

c) Number or percentage of patients who have been able to achieve blood pressure control

d) period the program has used for implementation

14. What, as a healthcare provider, are you aiming for with effective long-term blood pressure control in hypertensive patients?

a) the patient is not using a drug at all

b) reducing healthcare costs for the patient

c) decreasing the risk of cardiovascular events such as heart attack and stroke.

d) reducing hospital readmissions for the patient