Promoting Cardiovascular Health Education in Postpartum Patients with Hypertension

Esther Hong BSN, RNC-OB
Leanne Burke EdD, MSN, CNM, RNC-OB , NEA-BC, FAAN , Yuqing Guo, PhD, RN, FAAN

UC Irvine
Sue & Bill Gross
School of Nursing

Introduction

- Hypertensive disorders of pregnancy (HDP) affect ~10% of U.S. pregnancies and include gestational hypertension, preeclampsia/eclampsia, and chronic hypertension.
- HDP is a leading cause of pregnancy-related morbidity and mortality, associated with increased risk of stroke and myocardial infarction.
- Patients with HDP have significantly elevated postpartum cardiovascular (CVD) risk:
  - 10-fold risk of hypertension within 6 months, 2-fold risk within 2 years
  - ~30% experience persistent hypertension postpartum
- Despite American College of Obstetricians and Gynecologists recommendations for early postpartum blood pressure follow-up, follow-up adherence remains suboptimal.
- Barriers include limited access, lack of awareness, and competing postpartum demands
- Key gaps in care:

Low patient awareness of long-term cardiovascular risk | **Inconsistent inpatient discharge education** | **Lack of follow-up blood pressure screenings**

- Standardized, multimodal discharge education may improve:
  - Patient understanding and engagement, follow-up adherence, long-term cardiovascular outcomes
- Initial project question:
  - What are the best strategies or interventions to improve postpartum patient education regarding HDP?"

Literature Review and Evidence Based Recommendation

- **Key words**: "hypertension disorders of pregnancy, preeclampsia, gestational hypertension, postpartum readmission, discharge education, inpatient education, intervention, strategies, practices."
- **10 articles from multiple sources**: PubMed, CINHAL, Google Scholar, References, and Professional Organizations
  - Systematic/Scoping Review: 3
  - Randomized Control Trial: 6
  - Qualitative Improvement Project: 1
- **Essential features to improve HDP education:**
  - Printed educational materials, videos or modules, and interactive counseling
  - Most interventions were in combination with interactive counseling or discussion
- A multicomponent educational intervention combining all three interventions was chosen to optimize the outcome.
- **Final PICO Question**:
  - Among postpartum patients diagnosed with hypertensive disorders of pregnancy (HDP), does a multicomponent educational bundle improve knowledge of the associated cardiovascular disease (CVD) risk and recommended blood pressure measurement technique?

Methods

- **Purpose**: To implement and evaluate the feasibility of a standardized educational bundle designed to improve postpartum patients' knowledge of long-term CVD risk after HDP, increase knowledge of home blood pressure measurement technique, to confirm access to a blood pressure cuff.
- **Project Type**: Quality Improvement (QI) Project
- **Project Setting**: Postpartum units in high volume medical center in southern California
- **Participants**: Postpartum patients with a HDP diagnosis
- **Intervention**: Standardized, multicomponent educational bundle
- **Project Data Collection:** Pre- and post-educational bundle intervention surveys
- **Outcomes**:
  - Patient's perceived risk and knowledge of long-term CVD risk
  - Patient's knowledge of home blood pressure measurement technique
  - Confirm patient's access to a blood pressure cuff
  - RN checklist to validate patient blood pressure measurement technique
  - Patient satisfaction

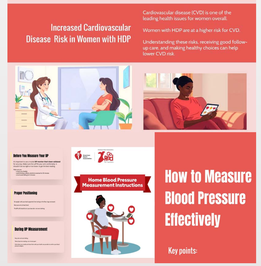
Intervention: Multicomponent Educational Bundle

Educational Video → **Informational paper handouts** → **Interactive counseling, RN blood pressure checklist**

- **CVD Risk**
  - CVD risk in women in relation to HDP
  - Lifestyle recommendation: diet and exercise
- **Blood Pressure Measurement**
  - Postpartum monitoring recommendation
  - Accurate blood pressure measurement technique
  - RN checklist for blood pressure check return demonstration
  - Confirming patient access to a blood pressure cuff at home
- **HDP Follow-Up**
  - Concerning symptoms to contact the provider or return to triage
  - Steps for follow-up: unit postpartum hypertension program vs. self-monitoring

Source for Validated Blood Pressure Cuffs

Educational Video: Understanding CVD Risk with Postpartum Hypertension



Video content highlighting key concepts of postpartum HDP patient education

Results

- Demographics (n = 7)
  - Ages ranged from 23-46 years old, within 1 week postpartum, primiparous 85%
- 86% of patients reported increased awareness of CVD risk (Figure 1).
- 71% of patients demonstrated increased knowledge of CVD risk.
  - Average knowledge improved from 31 to 45 out of 100 (Figure 2).
- 57% of patients showed increased knowledge of accurate blood pressure measurement.
  - Average knowledge improved from 66 to 83 out of 100 (Figure 2).
- 100% of patients confirmed access to a blood pressure cuff.
- 86% of patients had the RN blood pressure measurement technique checklist completed.
- 58% of participants were likely or very likely to recommend this education bundle to others, while 28% felt neutral or were unlikely to recommend this bundle (Figure 3).

Figure 1. Patient-Perceived Awareness of CVD Risk Post-Intervention

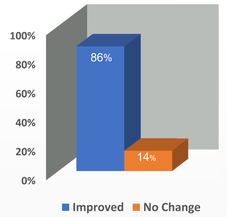


Figure 2. Patient Knowledge of CVD Risk and Blood Pressure Measurement Technique

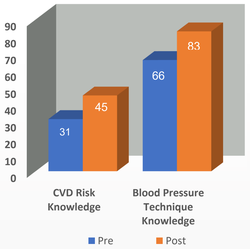
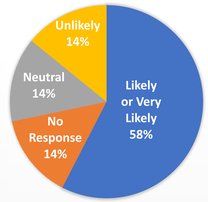


Figure 3. Likelihood of Patients to Recommend Educational Bundle



Conclusions

- A standardized multicomponent educational bundle was a feasible approach to improving postpartum HDP education processes within an inpatient setting.
- Patients demonstrated improved awareness of HDP-related CVD risk and home blood pressure measurement following the intervention.
- Patients who received the complete intervention including RN counseling and BP return demonstrations generally showed greater satisfaction.
- Implementation highlighted the importance of workflow integration, nursing engagement, stakeholder support, and accessible educational resources.
- Limitations included:
  - Long-term outcomes were not evaluated
  - Common reasons for patient declination: postpartum fatigue
  - Competing nursing clinical tasks impacted consistency of intervention delivery
- Future directions:
  - refinement of nursing workflow integration, engagement with stakeholders for unit-wide sustainability, assessment of longer-term postpartum outcomes.

Acknowledgment and References

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References