MAP to Better Pressure

Improving Blood Pressure Control Through a Structured, Individualized Hypertension Management Intervention in a Federally Qualified Health Center

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Background

Hypertension remains one of the leading modifiable risk factors for cardiovascular disease and is a significant contributor to morbidity and mortality in the United States. Poor blood pressure control disproportionately affects underserved and ethnically diverse populations due to barriers such as medication nonadherence, limited access to care, language barriers, and inadequate patient education.

Federally Qualified Health Centers (FQHCs) provide essential care for vulnerable populations and are uniquely positioned to implement evidence-based interventions that improve hypertension management and cardiovascular outcomes.

Purpose

To evaluate the impact of a structured, individualized, American Heart Association (AHA)-guideline-concordant hypertension management intervention on blood pressure control among adults receiving care at a Federally Qualified Health Center in Orange County, California.

Method

Design:
Retrospective pre-post quality improvement project.

Setting:
Federally Qualified Health Center in Orange County, California.

Sample:
- N = 26 adult patients
- Diagnosed hypertension
- At least two additional comorbid conditions
- Completed at least one follow-up blood pressure assessment

Intervention:
- Individualized antihypertensive medication optimization
- Medication adherence counseling
- Lifestyle modification education
- Home blood pressure monitoring using BP logs
- Specialty referrals as clinically indicated

Outcome Measures:
- Systolic blood pressure (SBP)
- Diastolic blood pressure (DBP)
- Medication adherence
- Home BP monitoring participation
- Follow-up attendance

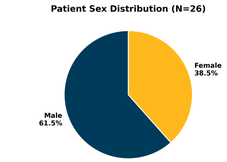
Data Collection:
Blood pressure measurements were collected at baseline, two-week follow-up, and four-week recheck visits.

Statistical Analysis:
Descriptive statistics and paired analyses were used to evaluate changes in blood pressure outcomes.

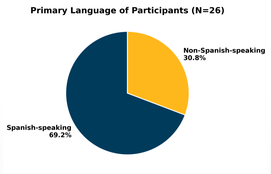
IRB Review:
This project was reviewed by the Institutional Review Board (IRB) and determined to be exempt from review.

Results

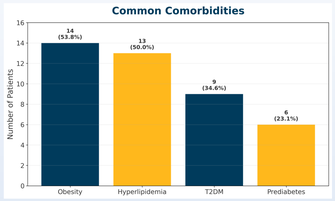
Participant Characteristics



- The study population was predominantly male, with 61.5% male participants and 38.5% female participants.

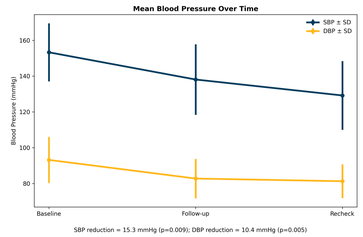


- The majority of participants were Spanish-speaking (69.2%, n = 18).



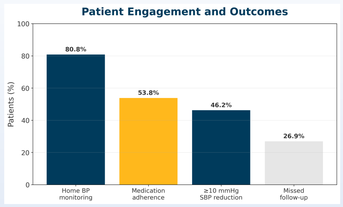
- Participants had a high burden of cardiometabolic disease, with obesity (53.8%) and hyperlipidemia (50.0%) being the most common comorbidities. Type 2 diabetes mellitus (34.6%) and prediabetes (23.1%) were also prevalent, reflecting the complexity of hypertension management within this underserved patient population.

Blood Pressure Outcomes



- Implementation of the hypertension management intervention was associated with clinically and statistically significant improvements in blood pressure. Mean systolic blood pressure decreased by 15.3 mmHg (p = .009), while mean diastolic blood pressure decreased by 10.4 mmHg (p = .005) from baseline to follow-up.

Patient Engagement



- High levels of patient engagement were observed, with 80.8% participating in home blood pressure monitoring and 53.8% demonstrating medication adherence. Nearly half of participants achieved a clinically meaningful systolic blood pressure reduction (≥10 mmHg), although follow-up attendance remained a challenge for some patients.

Key Finding

Implementation of a structured hypertension management protocol resulted in statistically significant and clinically meaningful reductions in both systolic and diastolic blood pressure.

Discussion

Implementation of a structured, individualized hypertension management intervention was associated with improved blood pressure control among a medically complex patient population receiving care in a safety-net primary care setting. High participation in home blood pressure monitoring and individualized treatment strategies may have contributed to the observed improvements.

Implications

- Guideline-concordant hypertension management can be successfully implemented in FQHC settings.
- Individualized treatment plans may improve blood pressure outcomes among underserved populations.
- Home BP monitoring may enhance patient engagement and self-management.
- Nurse practitioner-led interventions can support chronic disease management and population health initiatives.

Limitations

- Small sample size (N = 26)
- Single-site project
- Retrospective pre-post design
- No control group
- Incomplete longitudinal follow-up for some participants

Conclusion

A structured, individualized, AHA-guideline-concordant hypertension management intervention was associated with statistically and clinically significant improvements in blood pressure among a predominantly Spanish-speaking and medically complex patient population. Findings support the feasibility of implementing tailored hypertension management strategies within Federally Qualified Health Centers and other safety-net primary care settings.

References

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