

# Bundling Up for Better Blood Pressure

The Impact of Bundle Interventions on Patients with Hypertension

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**GRADUATE MEDICAL EDUCATION** 

# Hypothesis

The implementation of bundle interventions will result in a significant reduction in blood pressure levels.

# Background

- High blood pressure is a leading cause of cardiovascular disease and renal failure. [3]
- Studies show a clear positive relationship between irregular blood pressure and CVD risk. [9]
- Hypertension has become more prevalent while rates of care for blood pressure have gone down. [1]
- The bundles provided patients with:
  - Lifestyle interventions
  - Medications
  - Blood pressure machines

# Methodology- Prospective Cohort Study

# Phase 1 – Identification of Participants

Patients with blood pressure (BP) ≥
140/90 mmHg from June 2021 – June 30,
2022 at Piedmont Athens Regional Clay
Community Care Clinic (PAR CCCC)

# **Inclusion Criteria**

- ≥ 18 years old
- New and follow-up visits

# **Exclusion Criteria**

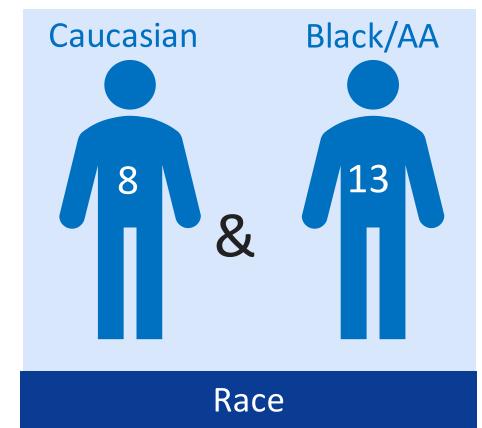
- Unestablished at PAR CCCC
- End-stage renal disease
- Pregnancy

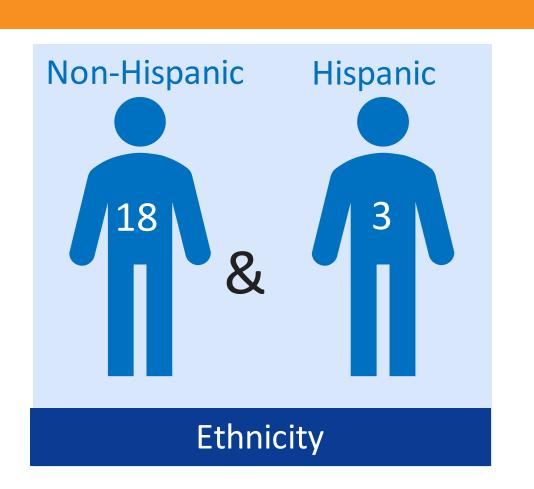
# Phase 2 – Intervention

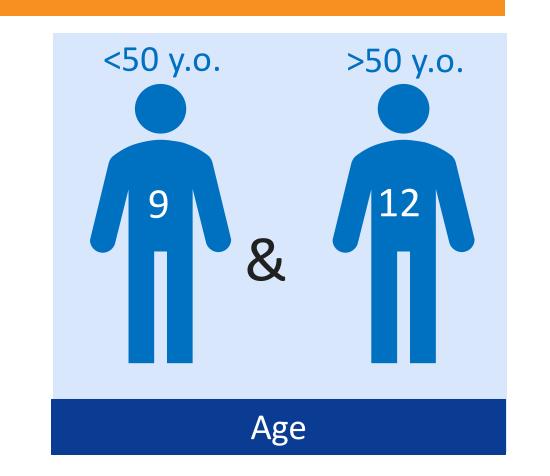
- Application of bundle interventions
- Follow up with participants to ascertain:
- BP control
- Awareness about hypertension
- Medication adherence (Hillbone Values)
- Patient check-ups at 2 weeks, 6 weeks, and 90 days after initial visit

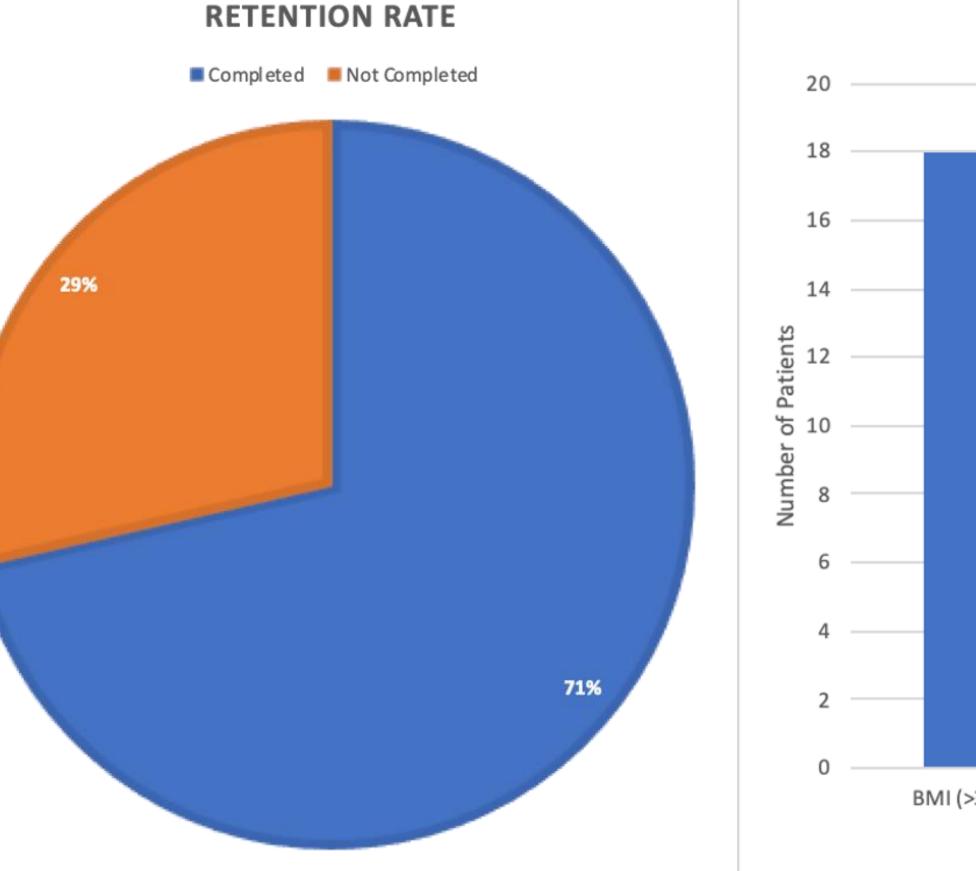
# Demographics Female Male 13 Gender

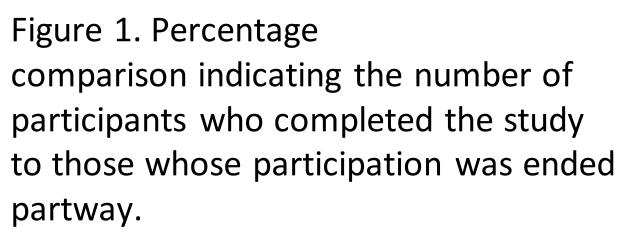
Results











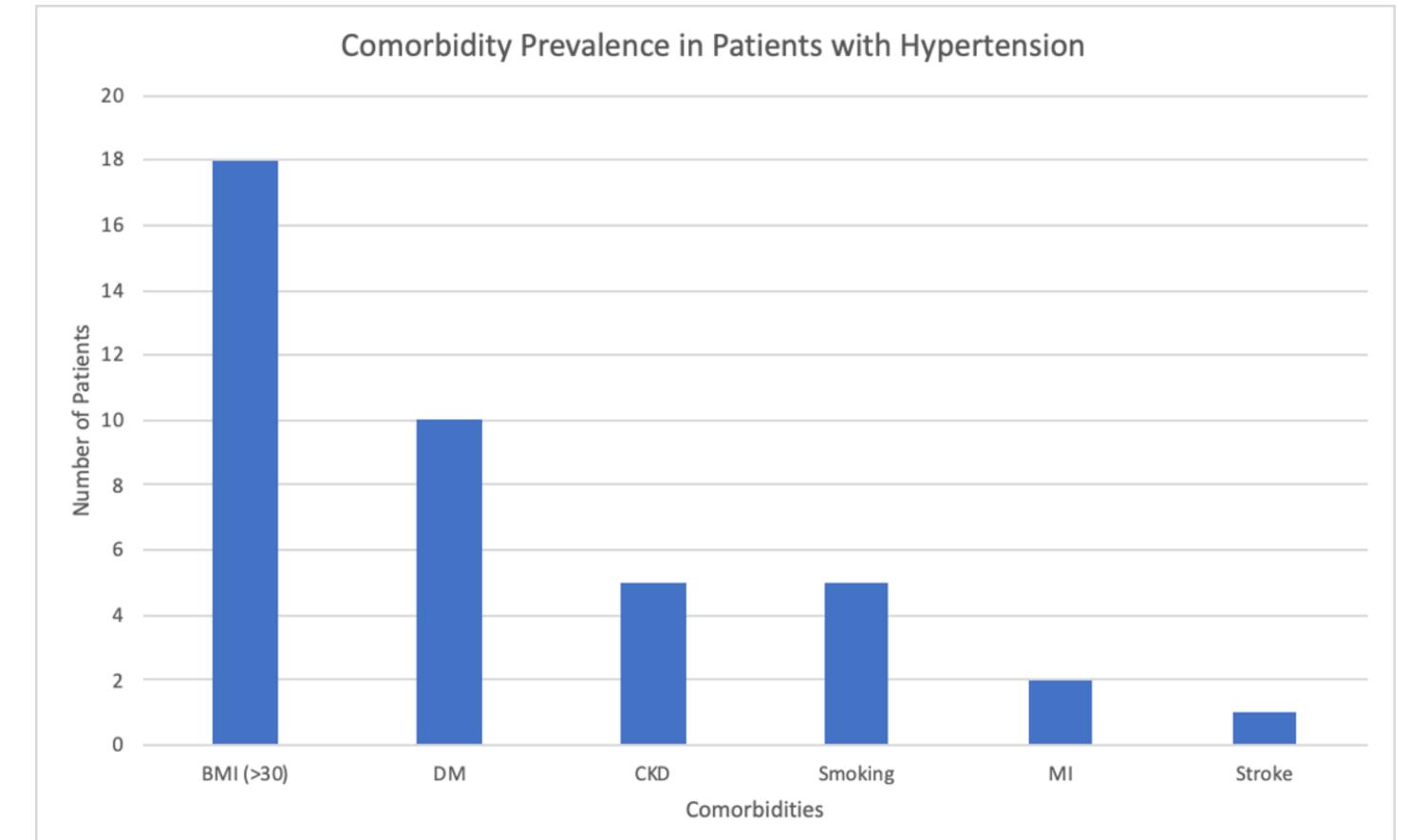


Figure 2. Number comparison indicating the prevalence of various comorbidities in patients with hypertension.

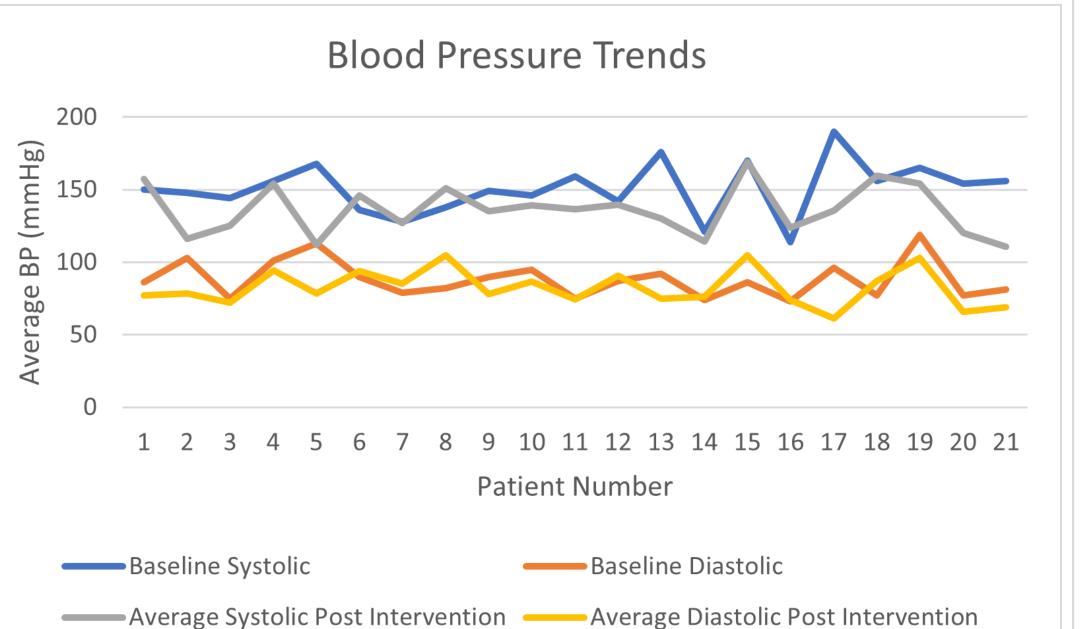


Figure 3. Mean drop in systolic blood pressure: 20 mmHg. Mean drop in diastolic blood pressure: 10 mmHg

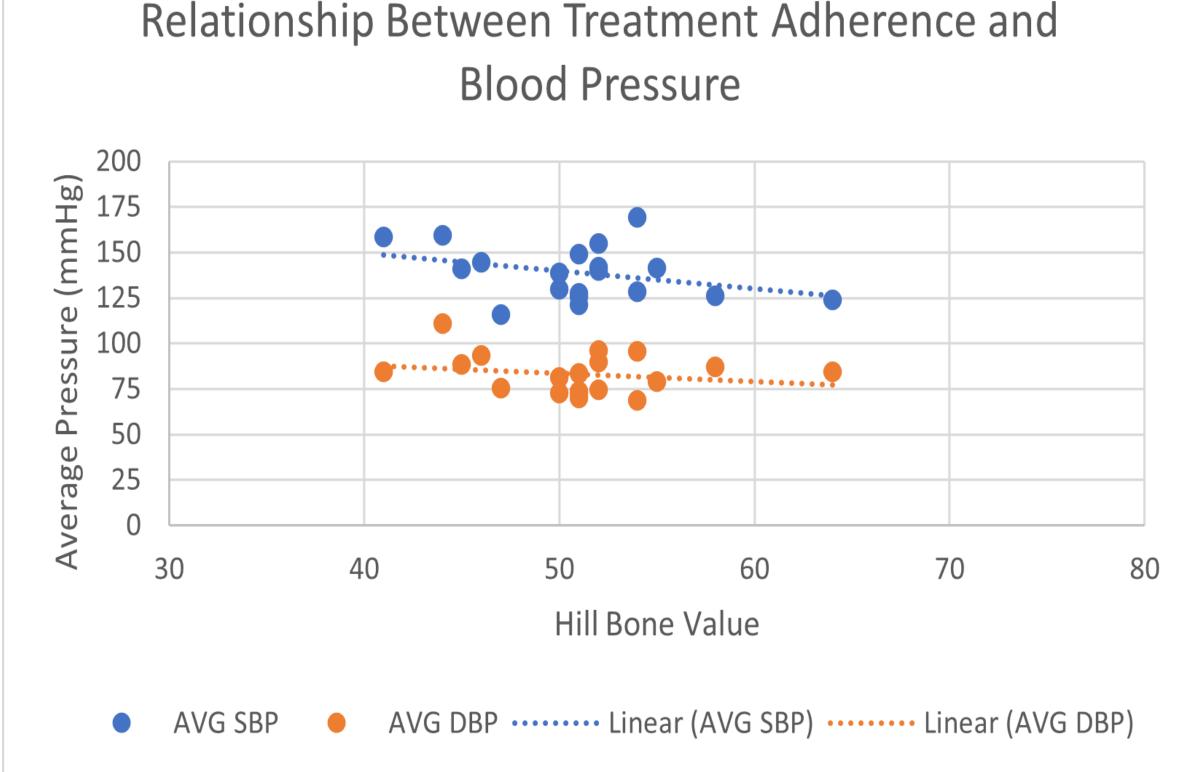


Figure 4. Correlative relationship between health literacy on hypertension and the effectiveness of bundle interventions in controlling patient hypertension.

# Discussion

Obesity most prevalent comorbidity

Negative correlation between patient adherence and blood pressure control

Decrease in systolic/diastolic
BP values across the study timespan

# Retention rate average relative to other studies [4]

- Discouragement from lack of early progress
- Did not have time to attend appointments

# Confounding Variables

- Hawthorne Effect
- Reduced day-to-day stress
- Improvement in sleep
- Social support (i.e. friends and family)
- Reduced tobacco use

## Conclusion

# Limitations to consider in the future:

- Unable to translate health literacy survey to Spanish, which excluded Spanish speakers
- Only Caucasian and Black/African American participants available for the study
- Most participants underserved/uninsured

# Further Considerations

- Actions to increase the retention rate of the study
- Increasing sample size to allow for a more accurate representation of the population

Adherence to multi-modal, bundled hypertension interventions leads to better blood pressure control.

# References

Scan this QR code to view references used.

