



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) \geq 140/90 mmHg from June 2021 – June 30, 2022 at Piedmont Athens Regional Clay Community Care Clinic (PAR CCCC)

Inclusion Criteria

- \geq 18 years old
- New and follow-up visits

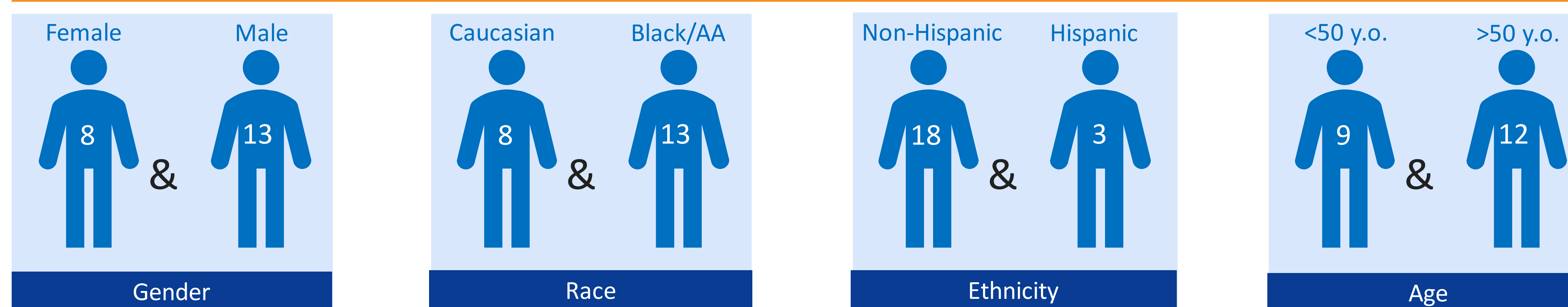
Exclusion Criteria

- 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



Results

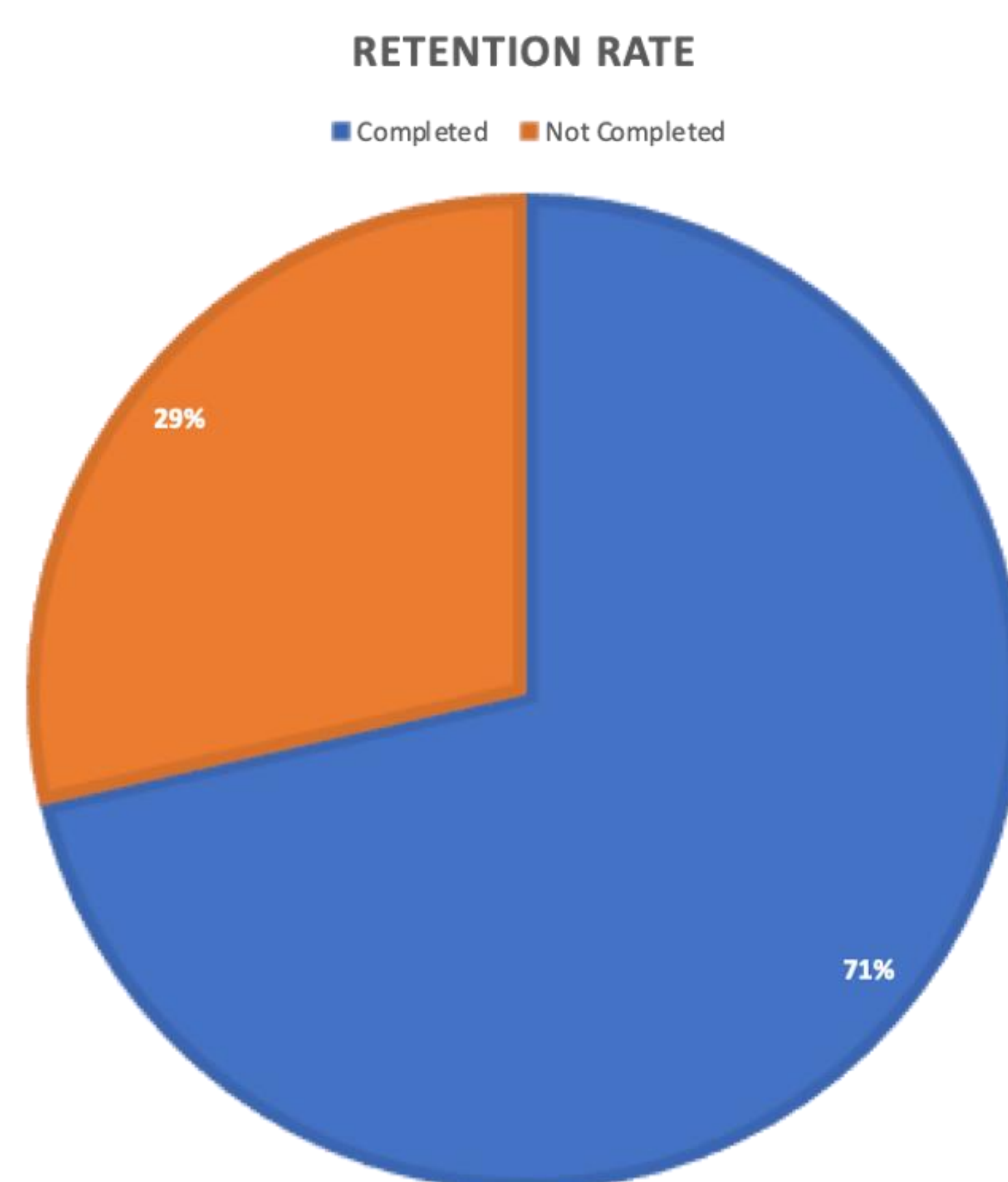


Figure 1. Percentage comparison indicating the number of participants who completed the study to those whose participation was ended partway.

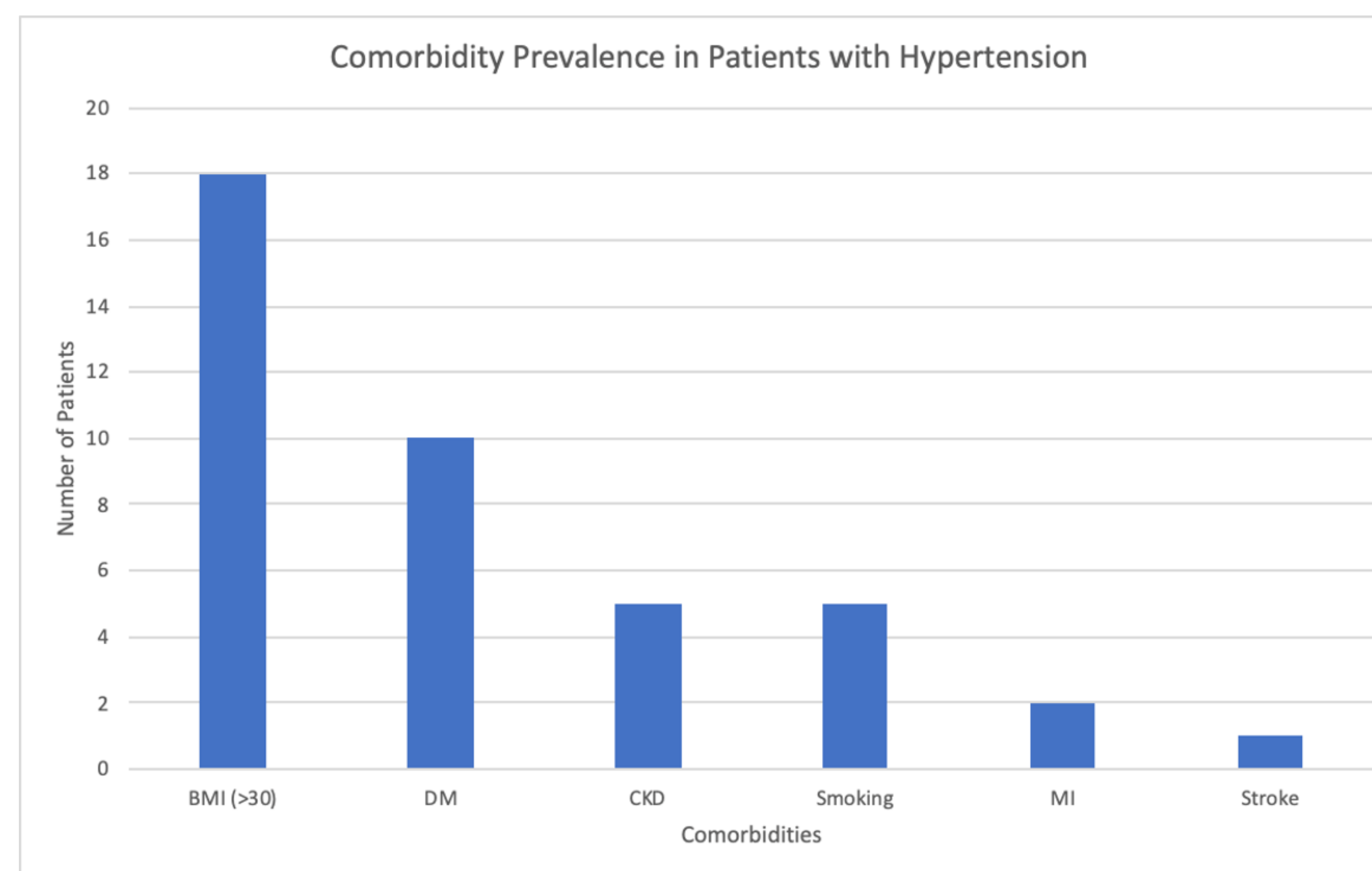


Figure 2. Number comparison indicating the prevalence of various comorbidities in patients with hypertension.

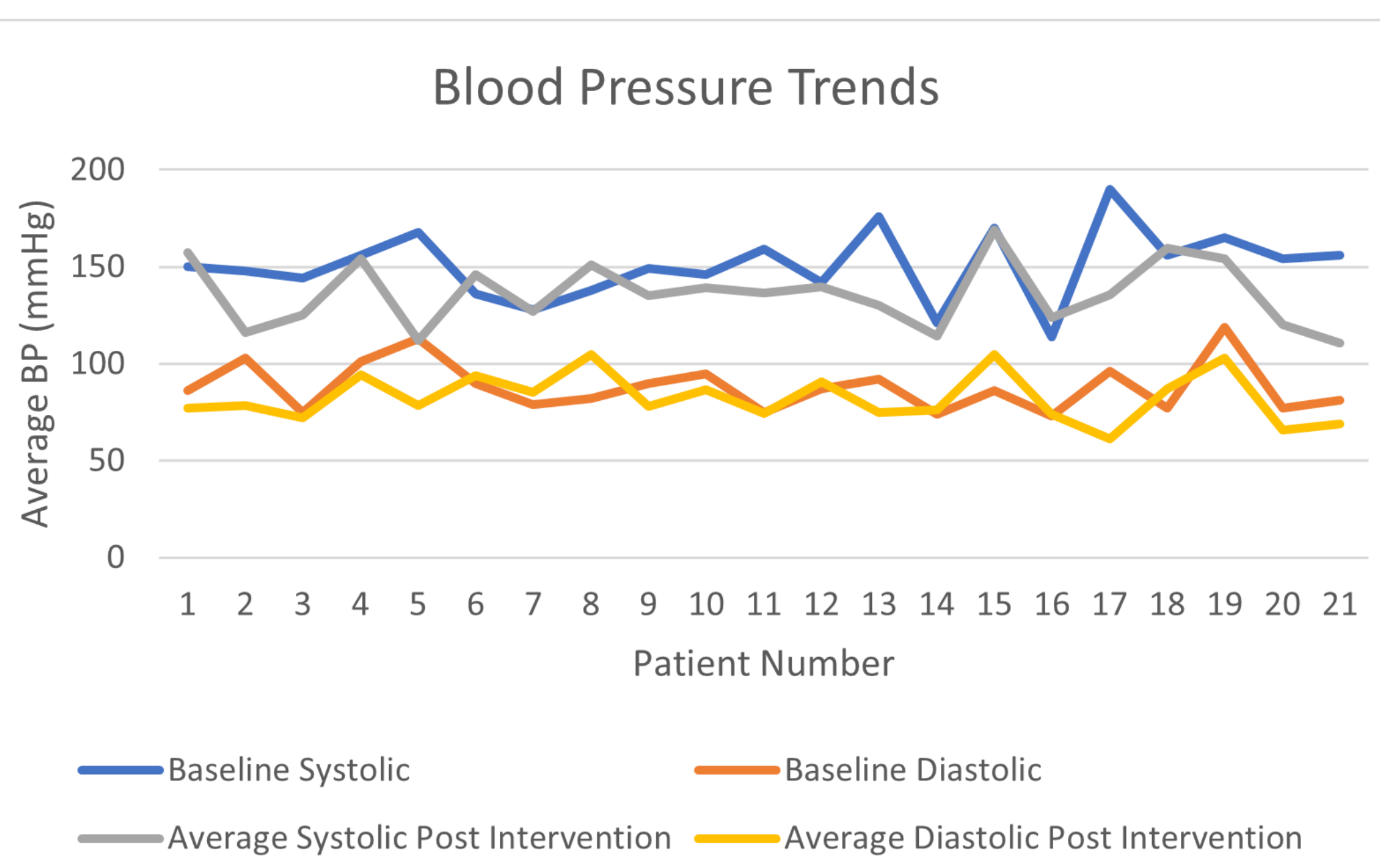


Figure 3. Mean drop in systolic blood pressure: 20 mmHg. Mean drop in diastolic blood pressure: 10 mmHg

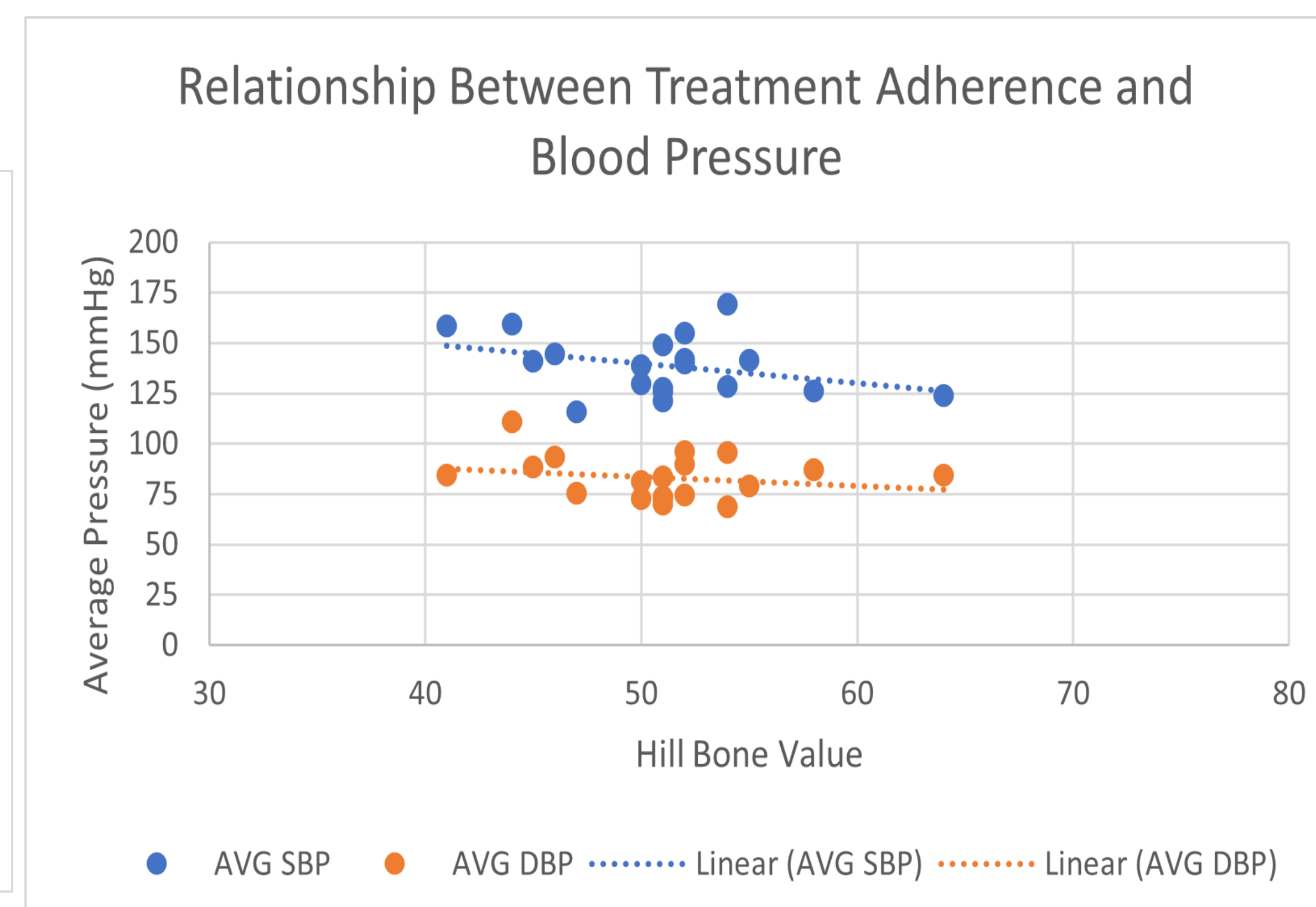


Figure 4. Correlative relationship between health literacy on hypertension and the effectiveness of bundle interventions in controlling patient hypertension.

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.

