

INTRODUCTION

In the United States (U.S.), **45%** of all adults have hypertension (HTN) with only **24%** adequately controlled.

- Self-measured blood pressure (SMBP) monitoring with clinical support has been associated with significant improvement of blood pressure (BP) control and increased medication adherence.
- SMBP supports self assessment and recording of BP outside of a clinical setting.
- The American College of Cardiology and the American Heart Association recommend the use of SMBP however, only 40% of patients with HTN in the U.S. use SMBP monitoring.

BACKGROUND AND SIGNIFICANCE

Uncontrolled HTN

- A BP \geq 130/80 with an established diagnosis (Dx) of HTN
- Seen in about 71% of those with HTN taking HTN medications
- High among low-income minority groups.

Medication Adherence

- Non-adherence to antihypertensive medication could be as high as 84%.
- Approximately 50% of antihypertensive medications are taken incorrectly
- Less than 2% of adults with HTN in the U.S. reported adherence to lifestyle modifications.

SMBP Monitoring

- Readings are a better predictor of cardiovascular disease and premature death.
- Is practical, relatively inexpensive, accessible, and can be used long-term.
- Allows patient awareness and active engagement in care
- Is effective in improving BP control.

AIM

Improve BP control and med adherence in low-income minority patients with uncontrolled HTN to ultimately decrease their risk of HTN-related complications.

METHODOLOGY

Design

Quasi- experimental one-group pilot study

Sample

Over a 2-week recruitment, nine English-speaking patients were recruited: ages \geq 18 with an established dx of HTN, a latest BP \geq 130/80 in EMR, on at least 1 anti-HTN med, and with access to BP machine and phone.

Setting

Private primary care center in northern New Jersey serving a high minority rate (86%) and a high poverty rate (28.3%) population.

Study Interventions

Consisted of 1 in-person educational session & 4 weekly personal support phone calls for 1-month

Session 1:

- Demographic questionnaire, pre-test Hill-Bone HBP Compliance to HTN Therapy (HB-HBP), and baseline BP
- SMBP protocol training and lifestyle modification handouts and resources

Session 2-5:

- Weekly BP logs collected and reviewed
- Reinforce teaching, answer questions or concern, and provide encouragement
- Post-test HB-HBP on last call

Measures

- Demographic data: 9-question survey
- Baseline and weekly mean BPs (12 readings/week)
- Pre- and Post-test HB-HBP consist of 14-items assessing 3 domains: diet adherence (2-items), appt. adherence (3-items), and med adherence (9-items); 4-point Likert scale response. Higher scores indicating greater compliance

RESULTS

11 participants out of 32 potential participants were recruited and completed the pre-intervention survey and 9 participants completed the weekly calls, BP logs, and post-intervention survey.

Baseline Demographic Characteristics

- 27.3% (n=3) male and 72.7% (n=8) female
- 63.6% (n=7) were ages 60-79; 27.3% (n=3) ages 40-59; and 9.1% (n=1) ages 20-39.

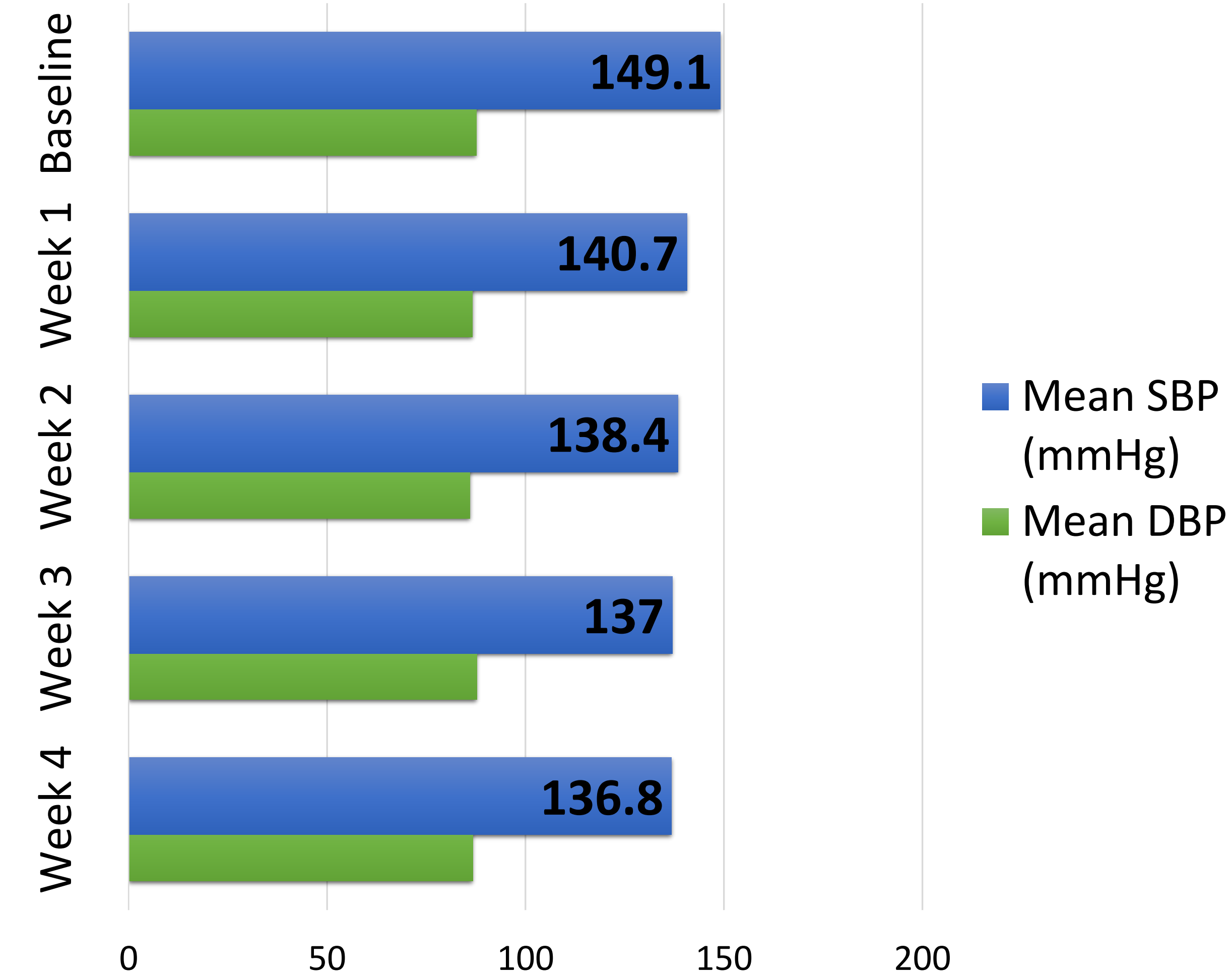
RESULTS CONT'

- 54.5% (n=6) had HTN for >10 yrs.
- 63.3% (n=7) sometimes checked BP
- 63.3% (n=7) lacked proper techniques.
- Only 36.4% (n=4) felt 100% confident in ability to check BP at home.

To determine the efficacy of SMBP on BP control and medication adherence

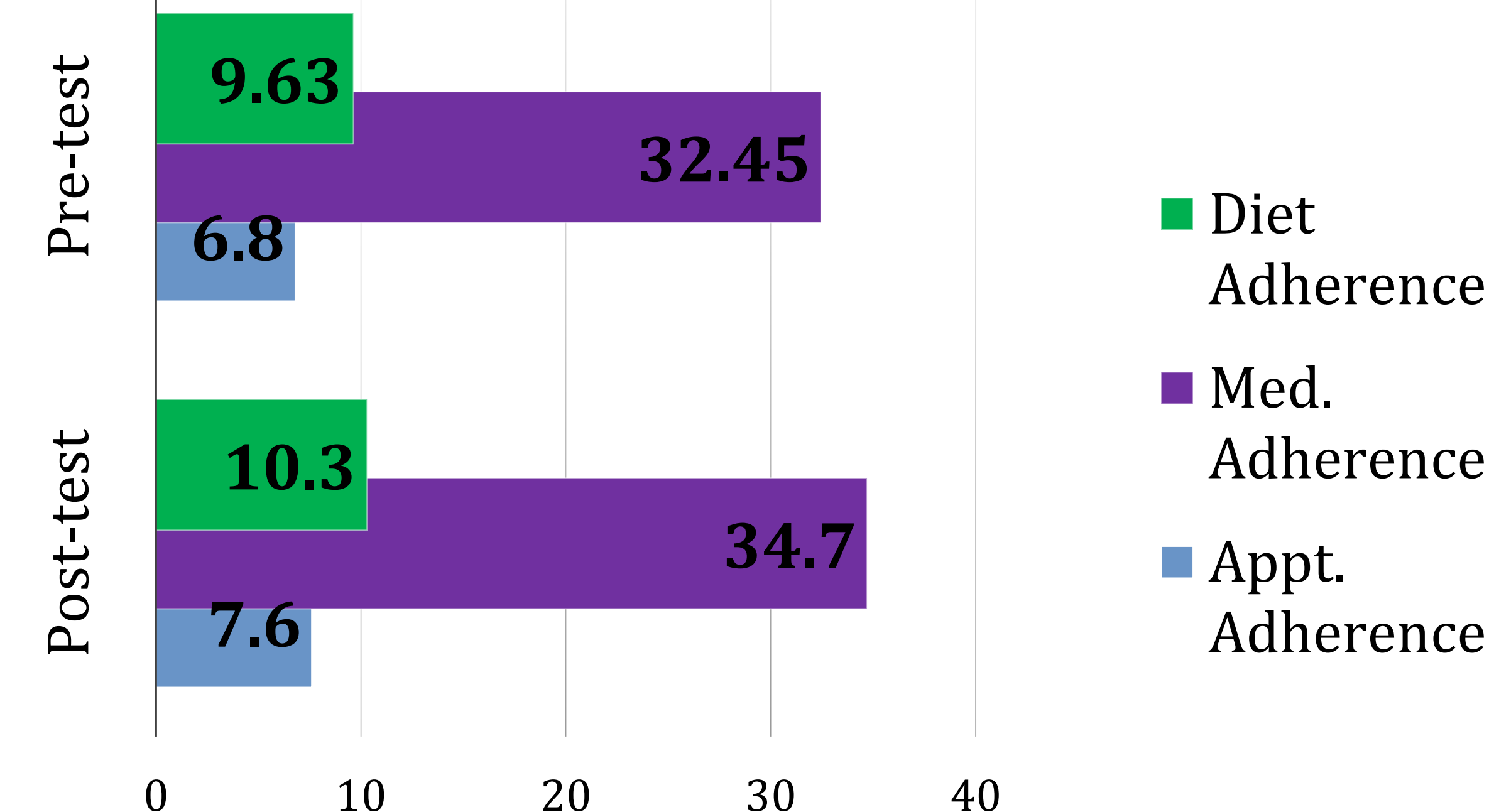
- SPSS (V27); Wilcoxon signed- ranks test; Sig. level of \leq 0.05

Effect of SMBP on BP control



- Reduction in SBP from baseline to Week 4 was **statistically significant** ($p = 0.028$)
- Reduction in SBP from baseline to week 1 was **statistically significant** ($p = 0.013$)
- Reduction in DBP was not statistically sig.

Effect of SMBP on HB-HBP



- Pre- and post- test mean scores for HB-HBP was **statistically significant** ($p = 0.012$),
- Med adherence subscale scores were **not** statistical sig. ($p = 0.56$)

DISCUSSION/IMPLICATIONS

Statistically significant improvement in **SBPs** and **HTN therapy adherence** can solely be attributed to the intervention; **No** statistically significant improvement in med. adherence alone

- Positive outcomes may be reproducible in larger sample
- Baseline med adherence was high

Limitations

- Impossible to evaluate the long-term effects
- Small sample size

Implications

Clinical Practice

- Introduce SMBP protocol as an integral part of HTN care
- Ensure education on lifestyle modifications
- Establish a weekly follow-up for patients identified with uncontrolled HTN

Policy

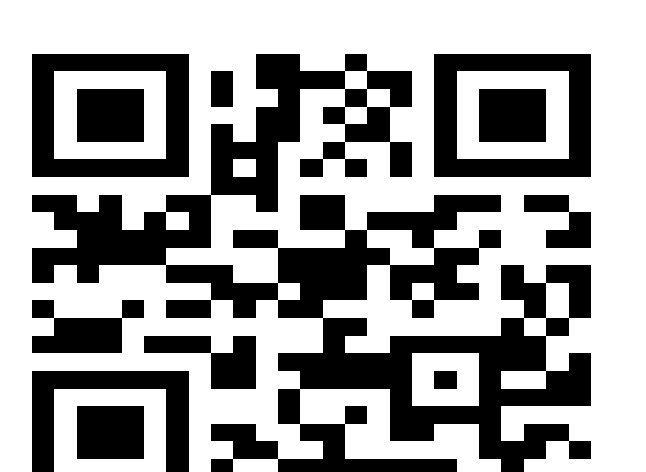
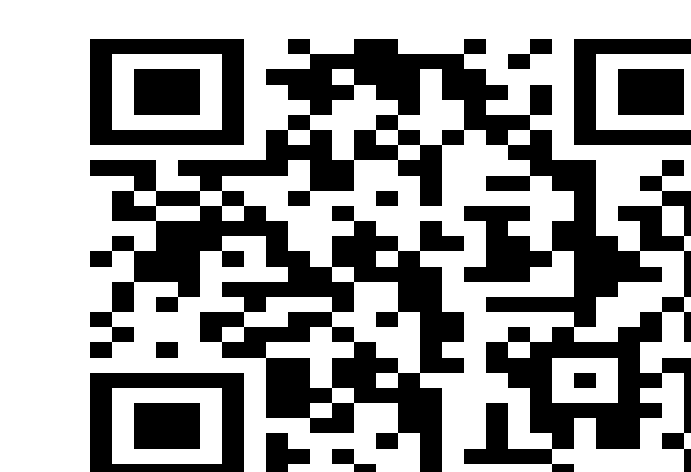
- Recommend insurance companies to cover the cost of BP monitor
- Recommend reimbursement for SMBP counseling
- Support the development of free SMBP educational workshops and training

Economy

- BP control can reduce associated financial burden caused by HTN-related complications



REFERENCES & INSTRUMENTS



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