Impact of a Rested Waiting Room Blood Pressure Compared to Usual Care

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Background

- The 2017 ACC/AHA hypertension guidelines recommend patients sit quietly for ≥5 minutes prior to obtaining a blood pressure (BP) reading[1]
- Previous studies have shown that optimal time for BP to stabilize can range from 5-25 minutes[2,3,4]
- Often, in clinical practice, patients are called back to see their provider and immediately have their BP taken
- Inaccurate readings could ultimately impact diagnosis, cardiovascular disease risk, and medication therapy
- This study evaluates a novel approach to measure BP, when the patient has been sitting for 5 and 10 minutes in the waiting room

Methods

Study Design
- Ongoing prospective interventional pilot study

Inclusion Criteria
- Patients 18-89 years old, scheduled to see internal medicine providers at Southern Illinois Healthcare Foundation's (SIHF) Centreville Health Center

Exclusion Criteria
- Patients who did not sit for 5 minutes prior to being called back to see the provider
- Anyone that could not have their BP taken for any reason

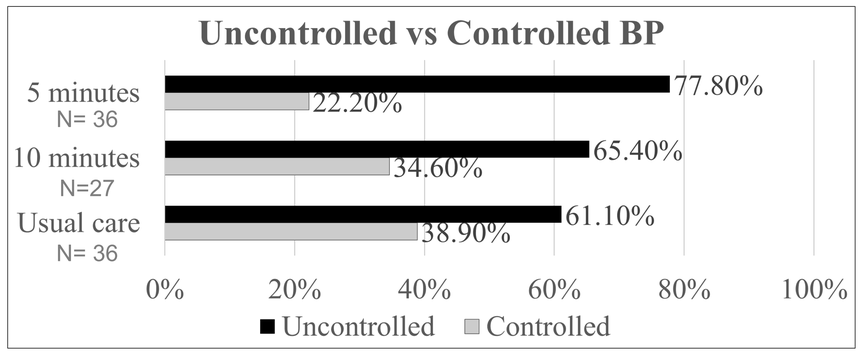
Intervention
- 5 minute rested waiting room BP
- 10 minute rested waiting room BP

Primary Outcome
- Difference between 5 minute rested waiting room systolic blood pressure (SBP) and usual care SBP

Secondary Outcomes
- Difference between 5 minute rested waiting room diastolic blood pressure (DBP) and usual care DBP
- Difference between 10 minute rested waiting room SBP and usual care SBP
- Difference between 10 minute rested waiting room DBP and usual care DBP
- Percentage of patients with uncontrolled BP at each reading (5 min, 10 min, usual care)

Results

Rested Waiting Room Blood Pressure vs Usual Care				
BP variable (mm Hg)	**5 minute***	**Usual care**	**difference**	**P value**
SBP	136.3 (17.9)	136.6 (21.1)	+0.3	0.84
DBP	82.2 (9.6)	81.4 (11.6)	-0.8	0.56
	10 minute**	**Usual care**	**difference**	**P value**
SBP	132.6 (16.6)	133.5 (18.9)	+0.9	0.90
DBP	80.2 (9.8)	80.7 (10.8)	+0.5	0.92
Data are mean (SD) *n=36 ** n=27				



Patients with Uncontrolled BP via Usual Care			
5 minute SBP*	**Usual care SBP, mm Hg (SD)**	**Difference**	**P value**
144.9 (15.4)	149.3 (16.3)	+4.4	0.05
10 minute SBP**	**Usual care SBP, mm Hg (SD)**	**Difference**	**P value**
144.4 (12.3)	146.6 (15.8)	+2.2	0.96
Data are mean (SD) *n=22 **n=14			

Demographics

- **Race:** 75% black or African American
- **Gender:** 75% female
- **Age:** 41.7% 50-59 years and 30.5% 60-69 years
- **HTN Diagnosis:** 80.6%
- **Insurance:** 38.9% private insurance, 36.1% Medicaid 19.3% Medicare, 5.6% self-pay
- **Number of antihypertensives:** range 0-5, mean 1.67

Limitations

- Small sample size
- Uncontrollable environmental factors that may impact blood pressure (e.g. talking, caring for children, getting up to go to the restroom, etc.)
- Unable to obtain a BP for all three categories

Conclusion

- Current analysis has not indicated a significant difference between rested waiting room BP and usual care
- Current analysis indicates a greater percentage of patients had controlled BP with usual care readings than that of rested BP
- In the patients with uncontrolled BP, there is a nonsignificant trend to a lower 5 minute and 10 minute rested BP than that of usual care
- This study is underpowered so further data collection will be necessary to determine the true impact of rested waiting room BP

References

1. Whelton, K et al. (2017) *J Am Soc Hypertension.* 71: 13-115
2. Turner M et al. (2008) *MEDSURG Nursing*. 17(2):93-98
3. Mahe G et al. (2017) *Sci Rep*. 7(1):12893
4. Nikolic, S et al. (2014) *J Hum Hypertens* 28(1):56-61