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## Background

- Remote blood pressure (BP) monitoring has been shown to decrease postpartum Emergency Department (ED) visits and readmissions.
- There is limited data on characteristics that affect compliance with remote BP monitoring program.

## Objective

- To evaluate characteristics associated with compliance within a remote BP monitoring program.

## Study Design

- A retrospective cohort study of birthing patients with peripartum HTN at a quaternary care center over 2 years.
- This study is part of an ongoing postpartum quality improvement project that entails lower BP targets and universal remote BP monitoring.
- Inclusion criteria: delivery at the study institution and diagnosis of HTN disorder of pregnancy at time of discharge.
- Primary outcome: compliance with utilizing remote BP monitoring, defined as logging at least one BP within the program.
- We compared maternal and hypertensive characteristics between groups.

## Results

- Out of 6410 deliveries between April 2022-April 2024, 2019 (31.5%) were affected by HTN disorder of pregnancy.
- Total 1509 (74.7%) were compliant with utilizing remote BP monitoring.
- There were higher rates of compliance with higher maternal age (in years, 34.2±5.0 vs 33.0±6.3, p<0.001), nulliparity (71.2% vs 56.5%, p<0.001), lower BMI (in kg/m<sup>2</sup>, 30.2±6.1 vs 31.6±7.0, p<0.001), prenatal aspirin use (41.9% vs 33.1%, p<0.001), IVF pregnancy (12.3% vs 7.8%, p=0.006), and private insurance (84.9% vs 59.4%, p<0.001).
- Patients discharged on anti-hypertensive medication were more likely to be compliant (36.0% vs 24.1%, p<0.001) as were those with longer postpartum lengths of stay (in days, 2.4±1.3 vs 2.3±1.2, p=0.027).
- Compliance was associated with lower rate of ED visit or readmission (1.8% vs 3.3%, p=0.039).

## Conclusion

- Characteristics associated with higher rates of compliance with remote BP monitoring include nulliparous, older, and privately insured patients. Compliance was associated with lower rates of postpartum ED visit or readmission.
- Continued work is needed to identify barriers to remote BP monitoring and target these areas for improvement within programs to improve compliance and further decrease postpartum readmission rates.

**Higher rates of compliance with remote blood pressure monitoring was seen in nulliparous, older, and privately insured patients, and was associated with lower rates of postpartum ED visit or readmission.**



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**Table 1: Baseline Characteristics by Remote Monitoring Compliance**

Baseline Characteristic	Using Remote Monitoring (n=1509)	Not using Remote Monitoring (n=510)	P-value
Maternal age in years (mean±SD)	34.2±5.0	33.0±6.3	<0.001
Maternal age 35 and above	726 (48.1%)	233 (45.7%)	0.34
<b>Race/Ethnicity</b>			
Asian	287 (19.0%)	66 (12.9%)	<0.001
Black	153 (10.1%)	66 (12.9%)	
Caucasian	595 (39.4%)	148 (29.0%)	
Hispanic/Latina	321 (21.3%)	153 (30.0%)	
None of the above/ Mixed	153 (10.1%)	77 (15.1%)	
Parity	1.4±0.8	1.7±1.0	<0.001
Nulliparity	1074 (71.2%)	288 (56.5%)	<0.001
BMI (kg/m <sup>2</sup> ) at delivery (mean±SD)	30.2±6.1	31.6±7.0	<0.001
Obese (>=30 kg/m <sup>2</sup> )	681 (45.1%)	273 (53.5%)	0.001
Gestational age (mean± SD)	38w2d±15d	38w3d±17d	0.69
Preterm delivery	196 (13.0%)	68 (13.3%)	0.84
Chronic hypertension	257 (17.0%)	98 (19.2%)	0.26
Pre-gestational diabetes mellitus	58 (3.8%)	24 (4.7%)	0.39
Gestational diabetes	137 (9.1%)	50 (9.8%)	0.63
Multifetal pregnancy	38 (2.5%)	15 (2.9%)	0.61
Aspirin use	633 (41.9%)	169 (33.1%)	<0.001
IVF pregnancy	186 (12.3%)	40 (7.8%)	0.006
<b>Insurance</b>			
Private	1281 (84.9%)	303 (59.4%)	<0.001
Public or No Insurance	228 (15.1%)	207 (40.6%)	
<b>Mode of delivery</b>			
Vaginal delivery	1020 (67.6%)	335 (65.7%)	0.43
Cesarean delivery	489 (32.4%)	175 (34.3%)	
Postpartum hemorrhage	226 (15.0%)	79 (15.5%)	0.78
Composite maternal morbidity	21 (1.4%)	6 (1.2%)	0.72
Postpartum length of stay in days (mean±SD)	2.4±1.3	2.3±1.2	0.027

**Table 2. Hypertension Characteristics by Remote Monitoring Compliance**

Hypertension Characteristics	Using Remote Monitoring (n=1509)	Not using Remote Monitoring (n=510)	P-value
<b>Hypertension diagnosis at discharge</b>			
Gestational hypertension	791 (52.4%)	261 (51.2%)	0.024
Preeclampsia without severe features	269 (17.8%)	118 (23.1%)	
Preeclampsia with severe features or HELLP	268 (17.8%)	70 (13.7%)	
Chronic hypertension only	181 (12.0%)	61 (12.0%)	
Anti-hypertensives at discharge	543 (36.0%)	123 (24.1%)	<0.001
Postpartum ED visit or readmission	27 (1.8%)	17 (3.3%)	0.039