

Clinician adherence to ACOG Guidelines Based on the Chronic Hypertension and Pregnancy (CHAP) Trial

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INTRODUCTION

- In April 2022, the CHAP trial found a significant difference in the incidence of perinatal complications in pregnant patients with mild chronic hypertension (cHTN) who received antihypertensive therapy compared to patients that were not treated unless severe hypertension developed, (30.2% vs. 37.0%, $p < 0.001$).
- Consequently, the American College of Obstetricians and Gynecologists (ACOG) now recommends initiating or up-titrating antihypertensive medications in pregnant patients with chronic hypertension whose blood pressure (BP) is greater than or equal to 140/90 mmHg.

OBJECTIVE

Assessed adherence to ACOG guidelines and examined whether patient characteristics were associated with adherence.

METHODS

- Retrospective analysis including all outpatient obstetric visits of pregnant patients with mild cHTN who attended at least two prenatal care visits ≤ 20 weeks and 6 days gestation between May 1, 2022, and July 31, 2023, at a tertiary care clinic in the Southeastern United States.
- Exclusion criteria included secondary hypertension, multiple gestation, contraindications to nifedipine and labetalol, chronic kidney disease, and prior stroke.
- The primary outcome was the adherence rate to ACOG's recommendations when a change in patients' antihypertensive therapy was indicated.
- We also evaluated adherence when no change was indicated. Additionally, we examined whether patient age, race, ethnicity, insurance status, or primary language were associated with adherence.
- Analyses were conducted in R 4.1.2 (R Core Team, 2021).

RESULTS

- Our cohort included 74 patients with a total of 147 prenatal visits.
- During 29 of these visits, there was an indication for initiating, titrating, or changing the antihypertensive medication. Adherence was observed in 10 visits (34.5%). Non-adherence ($n=19$) occurred when there was no documentation of medication initiation ($n=17$) or titration ($n=2$) despite a BP $\geq 140/90$.
- Providers adhered to the guidelines in 115 (99.1%) of the 116 visits where no adjustment was indicated.
- Among the 29 visits where a change in treatment was indicated, Medicaid coverage was significantly higher in the adherence group (50%) compared to the non-adherence group (10.5%) ($p=0.03$).

Guideline-consistent treatment was observed in only 10 of the 29 (34.5%) prenatal visits when a change in patients' antihypertensive therapy was indicated.

Table 1. Adherence to ACOG's cHTN management guidelines

	Total (N = 147 visits)
Visits where a change in patients' cHTN management was indicated	N = 29 visits
Adherence to ACOG's guidelines	10 (34.5%)
Patient's BP > 140/90; medication initiation or titration is documented	6 (20.7%)
Patient's home BP > 140/90; medication initiation or titration is documented	3 (10.3%)
Patient's previous BP > 140/90; medication initiation or titration is documented	1 (3.45%)
Non-adherence to ACOG's guidelines	19 (65.5%)
Patient's BP > 140/90; medication initiation or titration is not documented	19 (65.5%)
Visits where no change in patients' cHTN management was indicated	N = 116 visits
Adherence to ACOG's guidelines	115 (99.1%)
Patient's BP was normotensive; no change to treatment regimen	115 (99.1%)
Non-adherence to ACOG's guidelines	1 (0.86%)
Patient's BP was normotensive; medication initiation or titration is documented	1 (0.86%)
Visits where the antihypertensive was changed due to side effects	N = 2 visits

Table 2. Patient characteristics associated with adherence among visits where a change in treatment was indicated

	Non-adherence (N=19 visits)	Adherence (N=10 visits)	Total (N=29 visits)	p
Maternal age at estimated delivery date (years)				0.63
Mean (SD)	33.6 (± 5)	34 (± 6.8)	33.7 (± 5.6)	
Self-identified race				0.36
White	15 (78.9%)	6 (60.0%)	21 (72.4%)	
Black or African American	3 (15.8%)	4 (40.0%)	7 (24.1%)	
Asian	1 (5.3%)	0 (0%)	1 (3.4%)	
Self-identified ethnicity				0.53
Not Hispanic or Latino	17 (89.5%)	10 (100%)	27 (93.1%)	
Hispanic or Latino	2 (10.5%)	0 (0%)	2 (6.9%)	
Primary language				1.00
English	18 (94.7%)	10 (100%)	28 (96.6%)	
Spanish	0 (0%)	0 (0%)	0 (0%)	
Mandarin	1 (5.3%)	0 (0%)	1 (3.4%)	
Insurance				0.03
Medicaid	2 (10.5%)	5 (50.0%)	7 (24.1%)	
Private	17 (89.5%)	5 (50.0%)	22 (75.9%)	

DISCUSSION

- Our research demonstrated a low adherence rate to ACOG's chronic hypertension management guidelines when there was an indication to adjust treatment.
- Medicaid coverage was associated with adherence.
- The use of clinical tools has the potential to enhance clinician adherence. The implementation of new guidelines into clinical practice can be gradual, potentially impacting adherence rates.
- Future research and QI initiatives will investigate and address the barriers to effectively implementing these recommendations in clinical practice.