

Management of hypertensive disorders in pregnancy in Black women: a systematic review

Jeeva John (✉ jeeva.john@ed.ac.uk)

University of Edinburgh

Gwenetta Curry

University of Edinburgh

Research Article

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Abstract

Background: Black women are four times more likely to die than White women due to complications during pregnancy or childbirth in the U.K. This cohort are also more prone to Hypertensive Disorders in Pregnancy (HDP). Outside of pregnancy, there are race based differences in the management of hypertension as Calcium-Channel Blockers (CCB) are more effective in reducing blood pressure in Black patients. It is unclear whether these differences in anti-hypertensive management extend to the management of hypertension in pregnancy. The primary objective was to address this gap in evidence by undertaking a systematic review of all randomised control trials investigating pharmacological management of HDP to assess whether CCBs are the most effective anti-hypertensive agent in Black pregnant women. Methods: The following electronic databases were searched: PubMed, MEDLINE and Embase. We used MeSH and free text terms in conjunction to increase sensitivity to potentially relevant studies. Inclusion criteria included: (1) study involved treatment of HDP; (2) study was of a randomised control trial design; (3) one of the treatment arms involved CCBs and (4) English full-text. Information regarding baseline participant data, type of anti-hypertensive, and clinical outcomes was extracted from each study. Results: This review highlighted four randomised control trials, which published race or ethnicity demographics, with only one trial that stratified HDP outcomes by ethnicity. Conclusions: There is a lack of evidence to draw definite conclusions as to whether CCBs are the most effective anti-hypertensive agent for Black patients with HDP, highlighting the need for further research in this area. However, this review demonstrates some evidence to support the hypothesis that CCBs could be more effective in the management of HDP in Black patients and that Labetalol, which is the current first-line management of HDP, may not represent the gold standard of treatment in this cohort.

Full Text

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Figures

First Author	Year	Sample size	Black Participants (%)	Type of anti-hypertensive	Primary outcome
Scardo	1999	50	62	Nifedipine vs Labetalol	Time to achieve blood pressure goal of <160 mm Hg systolic and <100 mm Hg diastolic
Belfort	2003	1650	42	Nimodipine vs Magnesium Sulphate	Development of eclampsia
Sharma	2016	50	36	Nifedipine vs Labetalol	Time to blood pressure control
Webster	2017	112	54	Nifedipine vs Labetalol	Blood pressure

es

Figure 1

Study characteristics and primary outcomes

		Risk of bias							Overall
		D1	D2	D3	D4	D5	D6	D7	
Study	Scardo 1999	+	+	+	+	+	+	-	+
	Belfort 2003	X	X	X	X	+	+	-	X
	Sharma 2016	+	X	X	X	+	+	-	X
	Webster 2017	X	X	X	X	+	+	-	X

D1: Random sequence generation
 D2: Allocation concealment
 D3: Blinding of participants and personnel
 D4: Blinding of outcome assessment
 D5: Incomplete outcome data
 D6: Selective reporting
 D7: Other sources of bias

Judgement
 X High
 - Unclear
 + Low

Figure 2

Risk of bias assessment

Supplementary Files

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- [SearchstrategyandPRISMAflowchart.docx](#)