

# Unexpected Finding of a High Prevalence of Perinatal Hypertension in Rural Haiti

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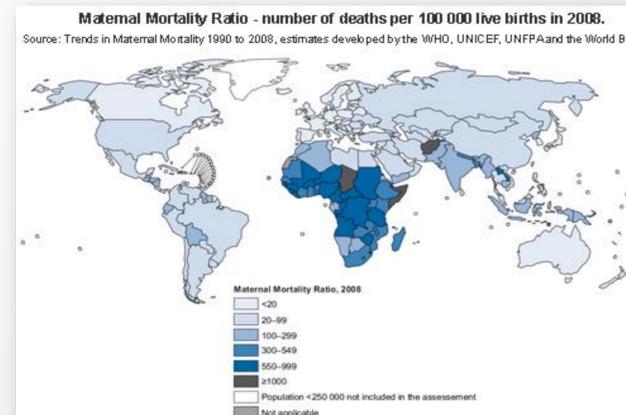


## Introduction

Hypertensive disorders in pregnancy are associated with maternal mortality worldwide. In Haiti, the risk of perinatal maternal death is high with sparse data concerning the incidence of gestational hypertension (HTN) reported from remote regions. It is vital to the health of mothers as well as the rural communities to gain a better understanding of HTN to decrease perinatal morbidity and mortality in areas without advanced healthcare.

Data from the World Health Organization (see right) estimates that between 10-15% of maternal deaths are associated with hypertensive disorders of pregnancy, and that 10% are associated with eclampsia. Worldwide, over 500,000 women die each year of pregnancy-related causes, and 99% of these deaths occur in the developing world. Put another way, in low income countries, maternal mortality is 100–200 times higher than in Europe and North America.

In this study, we measured the prevalence of HTN in perinatal women in the Thomazeau region of Haiti who presented to a rural clinic.



## Methods

- Retrospective pre- and postpartum data was analyzed from 436 women who presented between January 2013 and July 2015.
- Subset of current prepartum (n=200) and postpartum (n=82) women had a urinalysis performed which measured proteinuria and other urine markers (June-July 2015).
- Criteria for HTN:** two blood pressure readings taken at separate time points with systolic and diastolic pressures greater than 140 mmHg and 90 mmHg, respectively.

Note: this study was approved by the Texas A&M University Institutional Review Board.

## Results

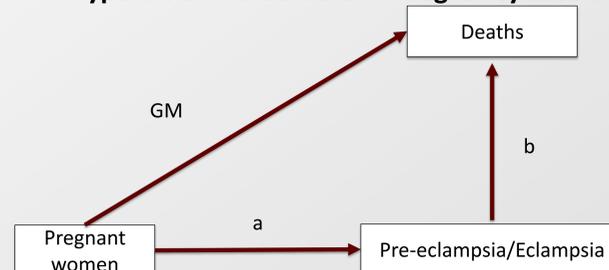
**Table 1. Perinatal Cohort (N=436)**

	Number (%)
HTN prepartum	57 (13.1)
Proteinuria	3 (1.5)
HTN postpartum	98 (22.5)
Proteinuria	13 (15.9)
New onset postpartum HTN	64 (65.3)

**Table 2. Description of Perinatal Clinic Cohort (n=436)**

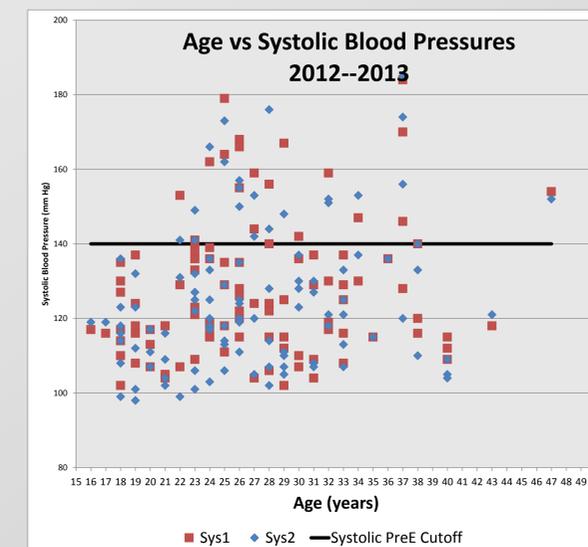
Variable	Mean ± Standard Deviation	Range	Median
Age (years)	26.6 ± 6.7	14-50	26
Weight (lbs)	132.0 ± 20.4	75-194	130.1
Height (inches)	63.7 ± 3.4	40-74	64.0
BMI (kg/m <sup>2</sup> )	23.0 ± 4.4	13.5-54.9	22.3
Gravidity	3.4 ± 2.2	1-12	3
Parity	2.4 ± 2.1	1-9	2

### Hypertensive Disorders of Pregnancy Model



a = incidence of pre-eclampsia and eclampsia  
b = CFR for eclampsia  
GM = general mortality

- Categories of Hypertensive Disorders of Pregnancy:**
- Chronic Hypertension
  - Preeclampsia superimposed on chronic hypertension
  - Preeclampsia-eclampsia
  - Gestational hypertension (occurring in latter half of pregnancy)



No association of systolic hypertension with age.



## Conclusions

- In this cohort of rural women, there is a high incidence of new onset postpartum HTN.
- As complications of gestational HTN including preeclampsia and eclampsia contribute to perinatal morbidity and mortality for both mother and baby in the developing world, early identification with treatment is critical.
- Investigation into possible etiologies and prevention will be essential as post-partum health care is rare in rural Haiti. Maternal morbidity associated with HTN-related sequelae will place a strain on the family unit.
- Deaths from HTN-related diseases can leave children parentless and perpetuate the cycle of poverty and lack of education in rural communities.

- Evidence from both developed and developing countries suggests that deaths associated with hypertensive disorders of pregnancy are the most difficult to prevent. More rigorous assessment of interventions designed to prevent these deaths is urgently required.

### References

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