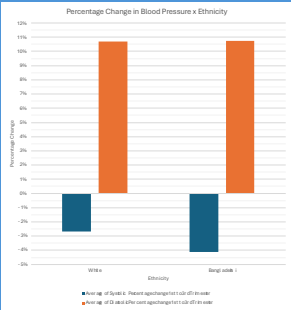
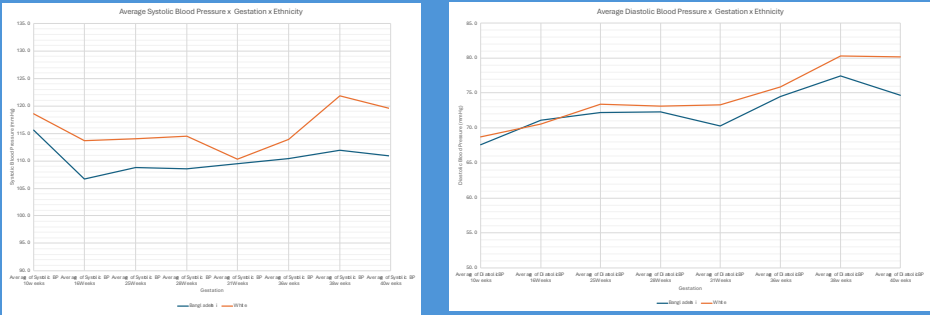


# A Preliminary Analysis of the BEGOTTEN Study: Blood pressure patterns in a multi-ethnic pregnancy cohort

• Emma Bateman<sup>1</sup>, Katie Raphael, Manlo Kwok<sup>2,3</sup>, Nawami Jasm<sup>1</sup>, Shalayna Sakaria<sup>1</sup>  
1. Queen Mary University of London (QMUL), Barts and the London School of Medicine and Dentistry  
2. Women's Health Research Unit, Wolfson Institute of Population Health, QMUL  
3. Barts Health NHS Trust, London, UK

## Results

### Blood Pressure Trajectories

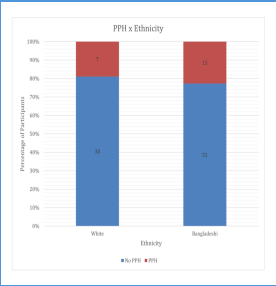


### Maternal and Perinatal Outcomes

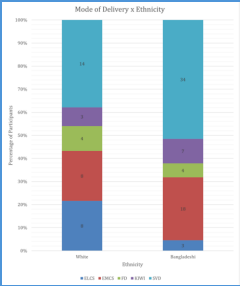
| Developing Condition      | PET/PIH        |
|---------------------------|----------------|
| Risk in White women       | 0.135          |
| Risk in Bangladeshi women | 0.061          |
| Standard Error            | 0.639          |
| log (RR)                  | 0.801          |
| Lower Bound (log)         | -0.451         |
| Upper Bound (log)         | 2.053          |
| Relative Risk of PET/PIH  | 2.230          |
| 95% CI:                   | [0.64 to 7.79] |

White participants more likely to develop PET/PIH although not statistically significant.

- Correlation analysis for BP, ethnicity and perinatal adverse outcomes showed weak relationships overall for birth weight & gestation at delivery
  - Birth weight  $r = 0.1$
  - Gestational age at delivery  $r = -0.2$
- In Bangladeshi participants, 2nd trimester BP had a moderate negative correlation with gestational age ( $r = -0.4$ )
- APGAR scores were not significantly associated with maternal BP for either ethnic group



Stacked percentage bar chart showing White and Bangladeshi participants who developed primary postpartum haemorrhage.



Stacked percentage bar chart showing White and Bangladeshi participants mode of delivery

## Discussion

This preliminary analysis highlights emerging ethnicity-specific trends in maternal blood pressure trajectories and related outcomes. While White women exhibited higher average blood pressures throughout pregnancy. Bangladeshi women who developed PIH experienced a more marked rise in diastolic BP over the course of pregnancy. These findings suggest that relative changes in BP may offer greater predictive value for HDP than static thresholds alone. The higher observed rate of HDP in White participants was not statistically significant, potentially due to the limited sample size. Furthermore, subgroup differences in sociodemographic factors, such as age, smoking status, income support, and English literacy, may contribute to the patterns observed and warrant adjustment in future analyses. Although correlations between BP and perinatal outcomes were weak overall, the differential trends seen in the Bangladeshi group indicate that ethnic background may modify these associations. These early findings underscore the importance of accounting for ethnicity in antenatal risk assessment. They also support the need for larger, more statistically powered analyses to validate these trends and explore whether tailored BP surveillance thresholds could improve outcomes in diverse populations. As the BEGOTTEN study continues, future work will incorporate multivariable modelling and biomarker data to further clarify the role of ethnicity in hypertensive disorders of pregnancy and perinatal health.

[1] Iliodromiti S, et al. 2023. Fetal Growth and Pregnancy Outcomes in Multi-Ethnic Populations. Available: Patterns of fetal growth and maternal blood pressure and pregnancy outcomes: A prospective cohort study in a multi-ethnic population in East London (BEGOTTEN study)