

Table A: Adjusted risk ratio models for Maternal and Perinatal Complications

Model	aRR (95% CI)	change vs. original
Original (age + CS)	3.34 (1.81–6.16)	Reference
+ parity, gestational age, residence	3.28 (1.77–6.08)	-1.8%

Perinatal Complications

Model	aRR (95% CI)	change vs. original
Original (age + CS)	1.38 (1.07–1.77)	Reference
+ parity, gestational age, residence	1.41 (1.09–1.82)	+2.2%

aRR: Adjusted Risk Ratio

Table B: Subtype Counts (ISSHP Classification)

HDP Subtype	n (%)	
Preeclampsia	109 (20.6%)	Includes 5 eclampsia, 3 HELLP
Chronic Hypertension	4 (0.8%)	
Uncategorized HDP	407 (77.1%)	Insufficient chart detail
<i>Total HDP cases</i>	528 (100%)	

Gestational hypertension was not be isolated due to poor documentation.

Table C: Sensitivity Analysis of HDP Subtypes

Outcome	Model	RR (95% CI)	p-value
Maternal complications	Original (All HDP)	3.34 (1.81–6.16)	<0.001

Outcome	Model	RR (95% CI)	p-value
	Excluding Uncategorized	5.12 (2.63–9.95)	<0.001
	Subtypes:		
	- Preeclampsia	5.41 (2.23–12.77)	<0.001
	- Uncategorized HDP	2.03 (0.94–4.35)	0.070
Perinatal complications	Original (All HDP)	1.38 (1.07–1.77)	0.014
	Excluding Uncategorized	1.89 (1.38–2.59)	<0.001
	Subtypes:		
	- Preeclampsia	2.01 (1.45–2.79)	<0.001
	- Uncategorized HDP	1.11 (0.81–1.53)	0.519

Table D: AKI/IUGR Sparse Outcome Analysis

Outcome	Method	Effect Size (95% CI)	p-value
AKI	Log-Binomial (Original)	RR: (NC)*	NC
	Poisson-Robust	RR: (NC)*	NC
	Firth Penalized	41.62 (2.15-806.91)	0.014
IUGR	Log-Binomial (Original)	RR: 8.9 (1.5–52.9)	0.003
	Poisson-Robust	RR: 8.88 (1.49-53.00)	0.017

Outcome	Method	Effect Size (95% CI)	p-value
	Firth Penalized	OR: 8.32 (1.64-42.27)	0.011

*NC: Non-convergence due to 0 cells

Bold: Primary robust estimates

Table E: Sensitivity analyses for maternal and perinatal complications

Method	Maternal RR (95% CI)	$\Delta\%$	Perinatal RR (95% CI)	$\Delta\%$
Complete-Case	3.34 (1.81–6.16)	-	1.38 (1.07–1.77)	-
Multiple Imputation	3.31 (1.79–6.12)	-0.9	1.39 (1.08–1.79)	+0.7
Inverse probability weighting	3.29 (1.77–6.10)	-1.5	1.40 (1.08–1.81)	+1.4

Table F: VIF table

Predictor	VIF	1/VIF
HDP (Yes vs No)	1.01	0.99
Age 20–34 vs <20 yrs	1.87	0.54
Age ≥ 35 vs <20 yrs	1.87	0.53
Mode = SVD vs reference	1.01	0.99
Mode = Vacuum extraction vs ref.	1.00	0.996
Mean VIF	1.35	

Table G: Integrated diagnostic assessment

Aspect	Finding
Multicollinearity	VIF <1.2 (reported)
Model Fit	HL p=0.31
Influential Points	Max Cook's D=0.008
Specification	Significant LR test (p=0.0027)

Table E: Spline model outputs**Perinatal Complications**

Model	HDP RR (95% CI)	GA/BW Effect (p-value)
Original (Binary GA/BW)	1.38 (1.07-1.77)	GA<37w: 2.21 (1.75-2.80)
Spline Model	1.42 (1.10-1.84)	Nonlinear: p=0.021
3-Stratum GA	1.41 (1.09-1.82)	GA<34w: 3.05 (2.15-4.33)

Maternal Complications

Model	HDP RR (95% CI)	BW Effect (p-value)
Original (Binary BW)	3.34 (1.81-6.16)	BW<2500g: 1.98 (1.21-3.24)
Spline Model	3.29 (1.78-6.09)	Linear: p=0.043

a) Enhanced Categorization (3+ Strata)

Variable	Strata	n (%)	RR vs. Normotensive
Gestational Age	<34 weeks	82 (2.2%)	3.05 (2.15-4.33)
	34-36+6 weeks	393 (10.8%)	1.87 (1.32-2.65)
	≥37 weeks	3,177 (87%)	1.68 (1.24-2.28)
Birth Weight	<1500g (VLBW)	48 (1.3%)	4.12 (2.25-7.54)

Variable	Strata	n (%)	RR vs. Normotensive
	1500-2499g (LBW)	264 (7.2%)	2.25 (1.62-3.13)
	≥2500g (Normal)	3,340 (91.5%)	Ref.

Table F: Benjamini-Hochberg FDR correction to the 6 pre-specified secondary outcomes

Outcome	Original p-value	FDR-Adjusted p-value	Significance Change
IUFD	<0.001	0.006	Unchanged (sig)
IUGR	0.003	0.009	Unchanged (sig)
PPH	0.018	0.018	Unchanged (sig)
APH	0.077	0.154	Unchanged (NS)
Low APGAR	0.291	0.3492	Unchanged (NS)
Preterm birth	0.439	0.6585	Unchanged (NS)

Table G: Maternal characteristics by HDP status with row percentages

Maternal characteristics	Normotensive (n=3124)	Hypertensive disorder of pregnancy (n=528)	Total
Maternal age (weeks)			
< 20	279 (87.5)	40 (12.5)	319
20 – 34	2573 (85.9)	423 (14.1)	2 996
≥ 35	272 (80.7)	65 (19.3)	337
Education			
None	712 (85.8)	118 (14.2)	830
Primary	294 (82.8)	61 (17.2)	355
Secondary	509 (88.2)	68 (11.8)	577
Tertiary	197 (82.4)	42 (17.6)	239
Missing	1 412 (85.7)	235 (14.3)	1 647
Occupation			
Salaried employment	145 (84.8)	26 (15.2)	171
Casual labourer	54 (83.1)	11 (16.9)	65
Unemployed	2 369 (85.3)	407 (14.7)	2 776
Self-employed	493 (86.6)	76 (13.4)	569
Missing	63 (88.7)	8 (11.3)	71
Marital status			
Married	2 617 (84.7)	474 (15.3)	3 091
Single	490 (90.2)	53 (9.8)	543
Divorced/Separated	14 (93.3)	1 (6.7)	15
Widowed	1 (100.0)	0 (0.0)	1
Missing	2 (100.0)	0 (0.0)	2
Residence			
Non-slum	1 043 (86.1)	169 (13.9)	1 212
Slum	2 065 (85.3)	357 (14.7)	2 422
Missing	16 (88.9)	2 (11.1)	18
Parity			
Primiparous	1 236 (86.3)	197 (13.7)	1 433
Multiparous	1 884 (85.1)	330 (14.9)	2 214
Missing	4 (80.0)	1 (20.0)	5
Antenatal care current pregnancy			
No	19 (82.6)	4 (17.4)	23
Yes	3 103 (85.6)	524 (14.4)	3 627
Missing	2 (100.0)	0 (0.0)	2
Gestational age			
≥ 37 weeks	2 649 (85.8)	439 (14.2)	3 088
< 37 weeks	475 (84.2)	89 (15.8)	564
Mode of delivery			
Vaginal	2 493 (87.1)	368 (12.9)	2 861
Caesarean section	628 (79.8)	159 (20.2)	787
Vacuum extraction	2 (66.7)	1 (33.3)	3
Missing	1 (100.0)	0 (0.0)	1

Infant birthweight			
(g)			
M±SD	3085.5±538.8	3042.8±641.2	3079.3±554.9
< 2 500	235 (75.3)	77 (24.7)	312
2 500 – 4 000	2 824 (86.6)	436 (13.4)	3 260
> 4 000	65 (81.3)	15 (18.7)	80