MATERNAL DEMOGRAPHIC AND INTRAPARTUM ANTECEDENTS OF SEVERE NEONATAL OUTCOMES AT TERM

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INTRODUCTION

There is evidence that the mode of delivery significantly influences neonatal outcomes [1]

Additional major risk factors include low birth weight, which is known to increase the risk of stillbirth, infant death, and neonatal morbidity. [2] [3]

The ability to predict these adverse outcomes hinges critically on an appreciation of predisposing risk factors that influence neonatal morbidity and mortality.

OBJECTIVE

To determine key demographic and intrapartum antecedents predisposing to severe adverse neonatal outcomes at term.

METHODS

Retrospective observational study between January 2008 & April 2017

Demographics: maternal age, ethnicity, BMI, parity and maternal medical conditions [hypertension (pre- eclampsia/pregnancy induced/chronic hypertension) and diabetes mellitus (Type 1/ 2/Gestational), artificial reproductive technology (ART), illicit drug use, smoking, alcohol use and socioeconomic status (SEIFA) scores.

Neonatal outcomes: Apgar score ≤3 at 5 minutes, severe respiratory distress, NICU admission, pH <7 or cord lactate ≥6mmol/L or BE ≤-12mmol/L and perinatal death.

RESULTS

- Over the study period there were 77,888 births with SANO occurring in 7,247 (9.3%) cases.

	SANO*		
	No (n=70,641)	Yes (n=7,247)	P Value
MOB#			
Instrumental#	11.6% (8,198)	34.8% (2,521)	<0.001
EM CS#	13.2% (9,325)	22.2% (1,608)	<0.001
CS Indication			
NRFS#	9.5% (2,313)	29.0% (731)	<0.001
Cord issues#	0.2% (55)	1.0% (26)	<0.001
IPH#	2.4% (580)	3.5% (88)	0.01
IOL*	28.4% (20,085)	36.8% (2,665)	0.03
2nd Stage#	4.7% (1,574)	9.5% (342)	<0.001
Analgesia*			
Opioids*	11.3% (7,995)	18.4% (1,336)	<0.001
Gestation			
37‡	7.7% (5,421)	11.7% (851)	<0.001
41‡	11.6% (8,224)	18.7% (1,354)	<0.001
≥42‡	0.4% (251)	1.1% (82)	<0.001
BW <5th %§	3.3% (2,299)	8.4% (610)	<0.001
BW <10th %§	7.6% (5,359)	14.3% (1,037)	<0.001
BW >90th %§	10.4% (7,314)	10.8% (779)	0.003
BW >95th %§	5.1% (3,624)	6.2% (452)	<0.001

*SANO – severe adverse neonatal outcome, MOB – method of birth, NRFS – Non-reassuring fetal status, IPH – intrapartum haemorrhage

CONCLUSION

From a demographic perspective, both young and advanced maternal age, raised BMI, nulliparity, maternal diabetes, smoking and illicit substance as well as low socio-economic status were all associated with SANO.

Operative vaginal birth, EMCS, prolonged second stage and use of opioids/narcotics for analgesia were associated with increased odds of poor neonatal outcome.

REFERENCES

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