

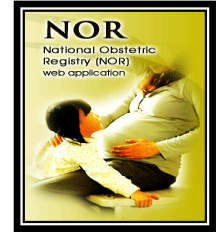
Fetal Growth Restriction: Maternal Risk Factors in Malaysia

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Introduction

Intrauterine fetal growth restriction (IUGR) is associated with significant perinatal morbidity and mortality. Management of such patients are extremely challenging. The long term implications are a major health concern.

The objective is to identify maternal risk factors for IUGR in Malaysia. This will aid in identifying preventive measures and risk stratification of patients who may need increased surveillance.

Methods

This is a retrospective cohort study. The study period was from 1st January 2011 till 31st December 2012 and 1,624 patients with IUGR were studied.

Specific variables were extracted from the National Obstetric Registry of Malaysia (NOR) from all the participating hospitals, which totalled to 260,959 patients.

Results

Variable	IUGR				Crude OR (Simple Logistics Regression)		
	Yes		No		(95% CI)	P value < 0.022	
	Number	%	Number	%			
Age							
<20	82	5.0	12,735	4.9	1.05 (0.84-1.31)	P value < 0.001	
20-34	1,252	77.1	204,127	78.7	1.00 (ref)		
35-39	205	12.6	32,699	12.6	1.02 (0.88-1.19)		
40 and more	85	5.2	9,774	3.8	1.42 (1.14-1.77)		
Parity							
1	714	44.0	88,980	34.4	1.43 (1.30-1.59)	P value < 0.001	
2-4	790	48.6	141,131	54.5	1.00 (ref)		
5 and more	120	7.4	28,924	11.2	0.74 (0.61-0.90)		
Booking BMI (kg/m²)							
<18.5	197	12.2	16,139	6.3	2.10 (1.81-2.45)	P value < 0.001	
18.5-29.9	1,107	68.5	190,846	74.0	1.00 (ref)		
30.0-39.9	296	18.3	46,793	18.1	1.09 (0.96-1.24)		
40 and more	17	1.1	4,116	1.6	0.71 (0.44-1.15)		
Medical diseases							
Connective tissue	Yes	1	0.1	6	0.0	26.6 (3.20-221.32)	P value 0.002
	No	1623	99.9	259,329	100.0	1.00 (ref)	
Renal	Yes	5	0.3	78	0.0	10.27 (4.15-25.39)	P value < 0.001
	No	1,619	99.7	259,257	100.0	1.00 (ref)	
Tuberculosis	Yes	5	0.3	145	0.1	5.52 (2.26-13.48)	P value < 0.001
	No	1,619	99.7	259,190	99.9	1.00 (ref)	
Hypertension	Yes	290	17.9	10,456	4.0	5.17 (4.55- 5.88)	P value < 0.001
	No	1,334	82.1	248,879	96.0	1.00 (ref)	
Thyroid	Yes	12	0.7	781	0.3	2.46 (1.39-4.36)	P value 0.002
	No	1,599	99.3	256,016	99.7	1.00 (ref)	
Diabetes	Yes	177	10.9	22,696	8.8	1.28 (1.09-1.49)	P value < 0.001
	No	1,447	89.1	236,639	91.2	1.00	
Previous Stillbirth							
No	1,605	98.8	258,043	99.5	1.00 (ref)	P value < 0.001	
Yes	19	1.2	1,292	0.5	2.36 (1.50-3.73)		

Conclusions

Medical diseases in pregnancy are the most significant causes for IUGR in Malaysia.

Primigravidas and patients beyond the age of 40 should have increased surveillance for IUGR. Optimising maternal BMI may aid in prevention.

Anemia, assisted conception, indeterminate APH, placenta praevia, smoking, substance abuse, socioeconomic status and psychiatric illnesses are non significant risk for IUGR.

References

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