



Booking Blood Pressure & Hypertensive Diseases in Pregnancy among Primids in Malaysia



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OBJECTIVE

Hypertensive Diseases in Pregnancy (HDP) remains a significant cause of maternal and neonatal morbidity and mortality in Malaysia.

It is a significant health burden which is more prevalent among primids.

Despite the advancements in the field of medicine, diagnostic inaccuracies remains a major challenge.

Prediction may allow risk stratification and initiation of preventive measures which should be the goal of treatment.

The arbitrary definition of 140/90mmHg may not be universally relevant as blood pressure is variable, specific to each individual and population.

The objective is to evaluate the association between booking blood pressure and the risk of developing HDP among primids in Malaysia.

METHODS

This is a retrospective cohort study. The study period was from 1st January 2010 till 31st December 2012 and 106,472 primids were evaluated.

Patients who were known to be hypertensive were excluded.

Specific variables were extracted from the National Obstetric Registry of Malaysia (NOR) from all the participating hospitals, which totalled to 399,274 patients.

RESULTS

Table 1: Systolic Booking BP and Hypertensive Disease in Pregnancy

OD: Odds Ratio CI: Confidence Interval ; P value is based on simple logistics regression

Systolic BP (mmHg)	Hypertensive Diseases in Pregnancy				Crude OR (95% CI)	P value
	Yes		No			
	No	%	No	%		
<100	66	1.0	6,530	99.0	0.39 (0.30, 0.50)	<0.001
100-109	444	1.6	27,004	98.4	0.63 (0.57, 0.71)	
110-119	1,105	2.5	42,649	97.5	1.00 (ref.)	
120-129	1,017	4.7	20,745	95.3	1.89 (1.73, 2.06)	
130-139	427	9.0	4,324	91.0	3.81 (3.39, 4.28)	
140-149	268	19.7	1,094	80.3	9.46 (8.17, 10.94)	
≥150	261	32.7	538	67.3	18.72 (15.96, 21.96)	

Table 2 Diastolic Booking BP and Hypertensive Disease in Pregnancy

OD: Odds Ratio CI: Confidence Interval ; P value is based on simple logistics regression

Diastolic BP (mmHg)	Hypertensive Diseases in Pregnancy				Crude OR (95% CI)	P value
	Yes		No			
	No	%	No	%		
<60	28	1.1	2,584	98.9	0.40 (0.28, 0.59)	<0.001
60-69	500	1.6	30,876	98.4	0.60 (0.54, 0.67)	
70-79	1,309	2.6	48,807	97.4	1.00 (ref.)	
80-89	1,135	5.7	18,723	94.3	2.26 (2.08, 2.45)	
90-99	441	22.3	1,538	77.7	10.69 (9.49, 12.05)	
100-109	132	43.4	1,72	56.6	28.61 (22.66, 36.13)	
≥110	42	32.6	87	67.4	18.00 (12.40, 26.12)	

Table 3: Mean Arterial Booking Pressure and Hypertensive Disease in Pregnancy

OD: Odds Ratio CI: Confidence Interval ; P value is based on simple logistics regression

Mean Arterial Pressure (mmHg)	Hypertensive Diseases in Pregnancy				Crude OR (95% CI)	P value
	Yes		No			
	No	%	No	%		
<60	2	(1.4)	145	(98.6)	0.93 (0.23, 3.75)	<0.001
60-69	9	(0.8)	1,171	(99.2)	0.52 (0.27, 1.00)	
70-79	412	(1.5)	27,640	(98.5)	1.00 (ref.)	
80-89	1,252	(2.5)	49,699	(97.5)	1.69 (1.51, 1.89)	
90-99	1,131	(5.2)	20,522	(94.8)	3.70 (3.30, 4.14)	
100-109	456	(13.2)	3,005	(86.8)	10.18 (8.86, 11.69)	
≥110	324	(35.8)	582	(64.2)	37.35 (31.60, 44.14)	

CONCLUSIONS

A universal definition of high BP may not be relevant for all individuals and population. Malaysians in general have a lower significant value of SBP 130-139mmHG and DBP of 80-89mmHg as the goal of treatment is to prevent complications. Each population should have their own specific cut off values in order to risk stratify and to initiate early preventive measures in pregnancy.

REFERENCES

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