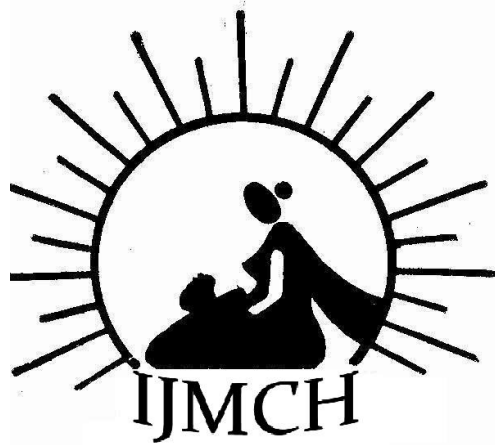


**Volume 14 (3), 2012**

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# **INDIAN JOURNAL OF MATERNAL AND CHILD HEALTH**

Is maternal outcome better if PIH mothers are booked , than the unbooked ones ?

## Comparison of Maternal Outcome in Booked & Unbooked PIH Mothers - A Retrospective Hospital Based Study

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**Research Question** – Is maternal outcome better if PIH mothers are booked , than the unbooked ones ?

**Setting** - This study was conducted at People's College of Medical Sciences & Research centre, Bhopal on PIH mothers admitted & delivered during 1 January 2009 to 31 December 2010.

**Study Design** – Retrospective Hospital Based Study.

**Methodology** – Hospital record of PIH mothers admitted & delivered during 1 January 2009 to 31 December 2010 was collected. Maternal outcome was compared between booked (B) & unbooked(UB) subjects (n=140).

**Results** - In rural population, there was a significant difference, UB forming 74 % of the whole group; booking was done only by 26%. Gestational age was significantly lower in UB, prematurity predominantly found. The mode of delivery was not significantly affected by booking status. All the eclamptic mothers were UB (none in B). Incidence of impending eclampsia & severe PIH was more in UB than B. Incidence of mild PIH was more in B than UB. There were some cases of abruptio, PPH, renal failure, hepatic failure, DIC, HELLP, maternal death in unbooked class, not so in booked .The hospital stay was longer for unbooked class.

**Conclusion** - The maternal outcome was better for booked class & can be further improved by strengthening antenatal services; educating & encouraging rural class for the same.

**Key Words** - *Booked, Unbooked, PIH, Maternal Outcome, Comparison*

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**Introduction-** Pregnancy Induced hypertension is commonly found in obstetric OPD & wards. The incidence of PIH all in developing countries it is 2-10 % of all pregnancies <sup>1</sup>. There is endothelial dysfunction & vasospasm affecting uterus, placental bed, kidneys & brain. Due to this reason maternal & foetal outcome is adversely affected. It can lead to many complications if it is left uncared for. Maternal complications & poor perinatal outcome are highly associated with non-utilisation of antenatal & delivery care services, with poorer outcomes in unbooked than booked patients. On the other hand they can be minimized by providing proper antenatal, intranatal services & educating general public at grass root level to pick up the benefit. This study shows maternal outcome in PIH mothers, both booked & unbooked.

**Aims-** To compare the maternal outcome in delivered booked & unbooked PIH mothers at PCMS & RC, Bhopal.

**Materials & Methods-** Data was collected from the hospital records of PCMS & RC, Bhanpur, Bhopal, of PIH cases admitted to the hospital during a period of two years i.e. from 1<sup>st</sup> January 2009 to 31<sup>st</sup> December 2010. The demographic details, menstrual, obstetric history, presenting complaints, general examination findings especially BP, oedema, obstetric examination findings, investigation reports, mode, date & time of delivery, birth weight, status of baby & maternal complications noted. The data was analyzed to find out the maternal outcome in terms of gestational age, GA at onset of PIH, severity of PIH, presence or absence of eclampsia, mode of delivery, renal, hepatic, retinal affection & other complications in relation to booking status. Maternal outcome was compared in both the groups.

**Inclusion Criteria-** PIH cases admitted to PCMS & RC, Bhopal from 1<sup>st</sup> January 2009 to 31<sup>st</sup> December 2010, delivered in PCMS & RC, Bhopal.

**Exclusion criteria-**

1. PIH cases admitted to PCMS & RC, Bhopal, in the same duration, but delivered outside.
2. Chronic hypertension associated with pregnancy.

**Measures of interest for maternal outcome –**

duration of gestation at delivery  
mode of delivery  
severity if PIH  
maternal complications of PIH  
length of hospital stay

**Observations-**

**TABLE-1 Rural / Urban**

<b>Rural / Urban</b>	<b>Rural</b>		<b>Urban</b>	
	<b>N=61</b>	<b>%</b>	<b>N=79</b>	<b>%</b>
<b>Booked</b>	<b>16</b>	<b>26.22</b>	<b>40</b>	<b>50.63</b>
<b>Unbooked</b>	<b>45</b>	<b>73.77</b>	<b>39</b>	<b>49.36</b>
<b>Total</b>	<b>61</b>	<b>100</b>	<b>79</b>	<b>100</b>

In rural subjects booking was done by only 26%, unbooked were significantly more; In urbans they were comparable. The difference was significant ( $\chi^2 = 8.541$ ;  $p < 0.005$ ) (table-1)

**TABLE-2 (Gestational Age at delivery)**

Gest. Age at delivery	Booked		Unbooked	
	n = 56	%	n = 84	%
Full term	43	76.78	50	59.52
Preterm	13	23.21	34	40.47

Full terms were significantly more in booked 76.78%; preterms significantly more in unbooked.40.47% ( $\chi^2 = 4.489$ ;  $p < 0.05$ ) (Table –2)

**TABLE – 3 (Mode of Delivery)**

Mode of Delivery		Booked		Unbooked	
		n = 56	%	n = 84	%
Vaginal	Spontaneous	9	16.07	21	25.00
	Induced	3	5.35	10	11.90
Caesarean	Emergency	32	57.14	46	54.76
	Elective	12	21.42	7	8.33

Mode of delivery was not significantly affected by the booking status. ( $\chi^2 = 7.081$ ;  $p = 0.069$ ). Elective sections being almost two & half times more in booked, whereas induced vaginal delivery were predominantly more in unbooked class. Spontaneous deliveries occurred more in UB (Table-3).

**TABLE- 4 (Severity of PIH)**

Severity of PIH	Booked		Unbooked	
	No.= 56	%	No. =84	%
Eclampsia	Zero	Zero	8	9.52
Impending eclampsia	2	3.57	5	5.95
Severe PIH	12	21.42	22	26.19
Mild PIH	42	75	49	58.33

In UB class 9.52 % had eclampsia, no eclampsia was seen in B group; occurrence of impending eclampsia & severe PIH was more in UB class. Mild PIH was more in B class (Table – 4).

**TABLE – 5(Maternal Complications)**

Maternal Complications	Booked		Unbooked	
	No.= 56	%	No.= 84	%
PPH	Zero	-	08	9.52
Abruptio Placentae	Zero	-	06	7.14
Retinal Affection	02	3.57	04	4.76
Renal Failure	Zero	-	03	3.57
HELLP	Zero	-	02	2.38
Hepatic Failure	Zero	-	01	1.19
DIC	Zero	-	01	1.19
Maternal Death	Zero	-	01	1.19
Pulmonary affection	Zero	-	Zero	-
Intracranial Haemorrhage	Zero	-	zero	-

In B class complications were almost nil. UB class had more complications (Table - 5).

**TABLE - 6 (Hospital Stay)**

Hospital Stay	Booked	Unbooked
Vaginal Delivery	3 – 8 days	4 – 9 days
Caesarean	5 – 15 days	7 – 19 days

The hospital stay in booked class was 3-8 days for vaginally delivered subjects & 5-15 days for caesarean mothers. For unbooked vaginally delivered it was 4-9 days & for unbooked CS cases it was 7-19 days. The stay was longer for unbooked class (Table – 6)

## Discussion

In rural population, there was a significant difference, UB forming 74 % of the whole group; booking was done only by 26%. Whereas in urban population it was comparable, indicating that rural public is very less aware of antenatal booking & its benefits, so they need to be educated for the same.

Gestational age was significantly lower in UB, prematurity predominantly found. This is consistent with results of Fatehmeh T.et al <sup>2</sup>. This is because of the neglected pregnancies, leading to higher rate of complications. Preterm delivery rate was UB-40.47 % ; B-23.21 % Teklu S <sup>3</sup> showed preterm delivery rate to be 48.6%.

The mode of delivery was not significantly affected by booking status. The overall CS rate for PIH was 70.82% in this study; & according to Huang Y it was 66.97% <sup>4</sup> ; higher than Ye RW et al (55.7 %) <sup>5</sup> ; CS rate for UB was 63.09% & for B 78.56 % in this study. Vaginal deliveries being more in UB class as these mothers are brought to the hospital late in second stage of labour. In B group, elective caesareans were more because of early diagnosis of the indication.

All the eclamptic mothers were UB (none in B); 75 % antenatal, 12.5% intranatal & 12.5% postnatal; at par with results of Abate M <sup>6</sup>.

Overall eclampsia rate in this study was 5.71% goes well with those of Haddad B <sup>7</sup> 6%. Incidence of impending eclampsia & severe PIH was more in UB than B. Incidence of mild PIH was greater in B than UB. indicating that the severity of PIH was much higher in UB group.

UB mothers had 9.52 % incidence of IUFD, especially in mothers with second or higher order birth (75% multiparous in IUFD) This is at par with findings of, Teklu S et al, Owalabi et al & Ananth CV et al <sup>3,8,9</sup> No IUFD in booked class.

Abruptio placentae was seen in 7.14 % in UB; Haddad <sup>9</sup> found it to be 10 %. Retinal affection was 4.7 % in UB & 3.5 % in B. PPH, renal failure, HELLP, hepatic failure, DIC, maternal death was ONLY found in UB group. Intracranial haemorrhage or pulmonary affection was not seen in any of the groups.

The hospital stay in booked vaginally delivered subjects was 3-8 days for booked CS subjects it was 5-15 days. For unbooked vaginally delivered it was 4-9 days & for unbooked CS cases it was 7-19days. The stay was longer for unbooked class

All these result indicate that the booked mothers had a better maternal outcome as compared to that of unbooked mothers.

**Conclusion** – The maternal outcome is better & complications much less if a patient is taking benefit of antenatal & intranatal services. People need to be educated & encouraged for utilizing these services to improve the outcome. Providers' policies also need to be strengthened & intimately implicated.

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