Maternal outcome in Relation to Spacing < 2 Years and 2-4 Years

Manpreet Kaur, Vinaya Pendse.
Department of Gynae-Obst., R.N.T. Medical College, and Zanana Hospital, Udaipur, Rajasthan.

Summary: Maternal outcome was studied and compared in 500 uncomplicated pregnancies with birth interval < 2 years and 2-4 years respectively. The incidence of episiotomy and lower genital tract injuries had no association with birth interval. The incidence of significant maternal morbidity such as caesarean section, post partum haemorrhage, haematoma formation, wound gaping, sepsis, hysterectomy, puerperal fever, etc. was statistically significantly high with short birth interval. Incidence of caesarean section was 13.8 per cent v/s 6.8 per cent in < 2 year and 2-4 years birth interval respectively. Incidence of post partum complications was almost two fold with short birth interval. The incidence of moderate cum severe anaemia (Hb <8 gm%) was 4.8 per cent v/s 2 per cent in the two groups respectively.

Introduction:

Closely spaced pregnancy and child birth impose a great stress on maternal health. The woman who has not yet recovered from the stress of her last pregnancy, child birth and lactation, has to fulfill the demands of the fetus growing in utero; she becomes depleted nutritionally and maternal morbidity is increased. Such pregnancies also carry a greater risk of perinatal morbidity and mortality. Thus, closely spaced pregnancies are high risk for both the mother and the fetus.

Though we all know the high maternal morbidity associated with short birth interval but there seems to be little attention drawn on this problem. Majority of the studies done on birth interval have focused mainly on perinatal outcome. In the present study, an attempt has been made to find out the maternal morbidity with short birth interval.

Material and methods:

The study was conducted prospectively on 1,000 women who delivered in Zanana Hospital, attached to R.N.T. Medical College, Udaipur, Rajasthan, during the period from August, 1996 to June, 1997. The cases were divided into two study groups of 500 each.
Group A included cases with spacing of < 2 years.
Group B included cases with spacing of 2-4 years.

Spacing or birth interval was defined as the duration between last delivery and present delivery. The inclusion criteria specified multiparous women beyond 28 weeks gestation in whom the last pregnancy had terminated in a live born child and the date of birth was known.

Those cases were excluded from the study which were likely to influence the maternal and perinatal outcome irrespective of the duration of spacing, such as cases with obstetrical complications like pregnancy induced hypertension (PIH), antepartum haemorrhage (APH), Rh negativity, multiple pregnancy, etc. and cases with medical disorders like diabetes, TORCH infection, etc. Number of cases had to be excluded because in them the date of last delivery was not known.

Observations:

The incidence of episiotomy and genital tract injuries was slightly higher in group B. But the results were not significant statistically (Table I).

The proportion of cases with significant maternal

Table I:
Relation of birth interval to maternal morbidity due to episiotomy and genital tract injuries.

S.No. Maternal Morbidity	Birth interval <2 years No.	%	2-4 years No.	%
1. Episiotomy	168	33.6	175	35.0
2. Perineal tears	61	12.2	79	15.8
3. Vaginal tears	5	1.0	2	0.4
4. Cervical tears	2	0.4	-	-
5. Paraurethral tears	13	2.6	12	2.4
Total	248	49.8	268	53.6

$X^2 = 1.396$; df = 1; $p > 0.05$

morbidity such as caesarean section and post partum complication was higher in group A. The results were statistically significant. Incidence of caesarean section was two fold in group A, 13.8 per cent compared to 6.8 per cent in group B. Scar tenderness was the indication for caesarean section in 13.04 per cent and 2.94 per cent cases in group A and group B respectively. Incidence of postpartum complications, like PPH, haematoma formation, wound gaping and sepsis was twice in group A. Incidence of premature rupture of membranes (PROM) and postdatism was also more in group A (Table II).

Table II

Relation of birth interval to other significant maternal morbidity

S.No.	Maternal morbidity	Birth interval < 2 years No.	%	2-4 years No.	%
1.	Caesarean section	69	13.8	34	6.8
2.	PPH and haematoma	6	1.2	3	0.6
3.	Wound gaping and sepsis	4	0.8	2	0.4
4.	Hysterectomy	1	0.2	-	-
5.	Puerperal fever	6	1.2	5	1.0
6.	PROM	30	6.0	20	4.0
7.	Post datism	42	8.4	26	5.2
8.	Blood transfusion	3	0.6	3	0.6
9.	Miscellaneous	36	7.2	33	6.6
	Total	197	39.4	126	25.2

$X^2 = 31.212$; df = 1; $p < 0.001$

Inclusive of both groups, it was observed that majority of mothers (73.4%) had < 50 kg weight. In group A, 77.2 per cent mothers weighed < 50 kg. The difference in the two groups was significant statistically ($p < 0.05$) (Table III).

There were 3.4 per cent moderately anaemic mothers in the study (Hb. ≤8 gm%), out of which 70.59 per cent had short birth interval and 29.4 per cent had 2-4 years birth interval. Two cases in group A were severely anaemic (Hb < 6 gm%). The results were highly significant statistically (Table IV).

Discussion:

Pregnancies which are closely spaced or occur at

Table III

Relation of birth interval to weight of mother

Weight (kg)	Total No. of cases	Birth interval <2 years No.	%	2-4 years No.	%
30-39	129	67	13.4	62	12.4
40-49	605	319	63.8	286	57.2
50-59	232	102	20.4	130	26.0
≥60	34	12	2.4	22	4.4
Total	1000	500	100.0	500	100.0

$X^2 = 8.31$; df = 3; $p < 0.05$

Table IV

Relation of birth interval to haemoglobin status of mother

Haemoglobin level gm %	Total No. of cases	Birth interval < 2 years No.	%	2-4 years No.	%
≤8	34	24	4.8	10	2.0
8.1 –10	907	455	91.0	452	90.4
> 10	59	21	4.2	38	7.6
Total	1000	500	100.0	500	100.0

$X^2 = 17.70$; df = 2; $p < 0.01$

short birth interval (< 2 years) are associated with increased health risks to the mother and the child.

Incidence of caesarean section was twice in short birth interval due to greater percentage of cases in this group having previous history of caesarean section. This shows a growing unacceptability and apathy for contraception. Also, the decision for caesarean section is taken quickly in such cases as the obstetrician does not want to take a chance, as the probability of scar dehiscence is greater with short birth interval.

Increased incidence of scar tenderness shows that the maternal tissue in short birth interval do not get adequate time to develop a strong scar to withhold the stress of successive pregnancies. Increased incidence of puerperal complications indicate poor vitality of tissues in women with short birth interval.

The low maternal weight of majority of cases in

general and those with short birth interval in particular shows the nutritional and physical status of mothers in our study and its association with short birth interval. These findings are consistent with the study of Ferraz et al. (1986).

Majority of the mothers in the study (90.7%) were mildly anaemic; spacing did not appear to influence the incidence of mild anaemia. Short birth interval prevents adequate time for restoration of maternal reserves depleted in last pregnancy and child birth, with consequent increased incidence of moderate cum severe anaemia. Similar were the observations of Fedrick & Adelstein (1973).

Educating the women regarding the benefits of adequate spacing between children and information about contraception is very important. Women should understand their reproductive rights. It's time the women start thinking about their own body and start taking self decisions regarding reproduction, against the pressures of society.

References:

1. Fedrick, J. and Adelstein, P. Br. Medical J. 4: 753, 1973.
2. Ferraz, E.M., Grey, R.H., Fleming, P.L. and Maia, T.M.: Am. J. Epidemiology. 128 (5): 1111, 1986.