
OBSTETRICS

Caesarean Section Rates in Thai Health Region 3 During 1993-1997

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ABSTRACT

- Objective** To study caesarean section rates in Thai health region 3 .
- Design** Data analysis of caesarean section cases in Thai health region 3 during 1993-1997.
- Setting** Hospitals in Thai health region 3.
- Method** The data of total deliveries, caesarean sections, indications of caesarean sections, complications of caesarean sections, maternal mortality, perinatal mortality, were collected from every hospitals in Thai health region 3.
- Results** Caesarean section rates had increased steadily during the period of 1993-1997. In 1997, the caesarean section rates in regional hospitals, general hospitals, district hospitals and private hospitals were 27.47%, 21.77%, 8.49% and 67.76% respectively. 68% of total caesarean sections in regional hospitals were private cases whereas primary caesarean section accounts for 75%. Repeat caesarean section in previous cases were 100%.
- Conclusion** During this 5 year period, caesarean section rates have risen steadily from 15.03 % to 19.24 % of total deliveries. Two out of three pregnancies in private hospitals were operated caesarean section. Two - third of the caesarean section cases in public regional hospital were private cases and three- fourth of the cases were primary caesarean section. When a caesarean section was done, the following deliveries for the same patient would always be caesarean. Most of the indications of caesarean sections were cephalopelvic disproportion, previous caesarean section, breech presentation, fetal distress, pregnancy induced hypertension and antepartum hemorrhage.

Key words: Caesarean section, Thai health region 3, cephalopelvic disproportion

Caesarean section (c/s) rates of Thailand increased steadily during 1990-1996. There were 58,183 and 109,867 cases of c/s in 1990 and 1996 respectively. (rising 89 percent during 7 years). Thai National c/s rates were 15.2% and 22.4% of total deliveries in 1990 and 1996. Primary and secondary c/s were similar pace of increase. In provincial hospitals c/s rates in 1996 was 23%, of which 14.4%

was primary and 8.5% was secondary section. Secondary rate significantly increased at a higher rate than secondary rate in the past seven years. In private hospital, c/s rate in 1996 was 51.4%, of which 32% was primary and 19.4% was secondary section. Primary c/s increased at a higher rate than secondary c/s in the past seven years.⁽¹⁾

Caesarean section rate in the United State of

America in 1988 was 24.7% of total deliveries, a five fold increase from 1960. The national institute of health initiated a national consensus development conference in 1980 and set a target c/s rate of 15% of total deliveries by the year 2,000, of which primary rate should not exceed 12% and secondary 3%. There was a 15 years attempts to curb down secondary c/s through introduction of vaginal birth after caesarean (VBAC) with moderate success. Attempt was made to hold down primary rate through peer review mechanism and payment method to professionals which is conducive to vaginal deliveries.

Materials and methods

Thai health region 3 is located in the eastern part of Bangkok, which includes 7 provinces, i.e. Chanthaburi, Cha-Chaeng-Sao, Chonburi, Prachinburi, Rayong, Sra-keaw and Trat.

The data of total deliveries, c/s rates, indications of c/s were collected from every hospitals in this region. The study includes all women delivered during 1993-1997. Only Chaophya-abhai-bhu-bejhr Hospital (CH) had studied the rates of service and private c/s, c/s complications, maternal mortality rate and perinatal mortality rate.

Results

In 1993 c/s rates of public hospitals were 14.13% compared to 17.59%. in 1997.

In 1993 c/s rates of private hospitals were 55.81% compared to 67.76%. in 1997.

In 1993 the average c/s rates in Thai health region 3 were 15.03% compared to 19.24%. in 1997.

Table 1. CAESAREAN SECTION RATES (%) in Thai health region 3

Hospital	Year					
	1993	1994	1995	1996	1997	average
Sra Keaw	06.52	07.75	07.28	08.71	10.22	08.16
Chachaengsao	12.14	13.75	13.48	12.74	14.40	13.36
Rayong	15.35	17.94	18.00	12.39	17.84	16.22
Chanthaburi	17.47	18.67	17.89	16.95	17.97	17.74
Trat	12.57	14.50	18.88	20.96	20.96	17.75
Prachinburi	15.87	15.77	16.77	19.39	20.37	17.81
Chonburi	16.52	17.29	19.41	19.63	21.15	18.92
Public	14.13	15.33	16.11	15.72	17.59	15.87
Private	55.81	59.01	55.69	62.43	67.76	60.77
Health region 3	15.03	16.34	17.61	17.52	19.24	17.29

In 1993 c/s rates of district hospitals were 4.02% compared to 8.49%. in 1997.
 In 1993 c/s rates of general hospitals were 15.13% compared to 21.77%. in 1997.
 In 1993 c/s rates of regional hospitals were 22.62% compared to 27.47%. in 1997.

Table 2. c/s rates in public regional, general and district hospitals in Thai health region 3

Hospital	Year					
	1993	1994	1995	1996	1997	average
regional	22.62	24.10	25.39	22.80	27.47	24.48
general	15.13	16.84	19.42	19.65	21.77	18.75
district	4.02	5.00	6.61	8.14	8.49	6.76

In 1993 c/s rates of service cases in C.H. were 43.72% compared to 32.02%. in 1997.
 In 1993 c/s rates of private cases in C.H. were 56.28% compared to 67.98%. in 1997.

Table 3. c/s rates of service and private cases in Chao-phyu-abhai-bhu-bejhr Hospital

c/s cases	Year					
	1993	1994	1995	1996	1997	average
SERVICE	43.72	37.84	42.70	40.58	32.02	38.84
PRIVATE	56.28	62.16	57.30	59.42	67.98	61.16

Indication of c/s were cephalopelvic disproportion (CPD) (average 39.49 %).

Previous c/s (23.35%), Breech presentation (8.39%), Fetal distress (7.93%), pregnancy induced hypertension (4.06%) antepartum hemorrhage (2.48%).

Table 4. Indications of c/s in Thai health region 3

Indication	Year					
	1993	1994	1995	1996	1997	average
Cephalopelvic Disproportion	38.60	39.66	36.88	40.57	40.96	39.49
Previous C/S	18.29	22.95	22.64	26.62	24.29	23.35
Breech presentation	08.53	09.11	09.53	07.99	07.34	08.39
Fetal distress	11.63	07.29	09.78	07.77	04.80	07.93
Pregnancy induced hypertension	04.65	03.80	04.83	03.09	04.14	04.06
Antepartum hemorrhage	02.79	01.97	02.10	02.45	02.92	02.48

Average primary c/s rates in Thai health region 3 during 1993-1997 was 76.65 %.

Average secondary c/s rates in Thai health region 3 during 1993-1997 was 23.35 %.

Table 5. Rate of primary and secondary c/s in Thai health region 3

C/S	Year					
	1993	1994	1995	1996	1997	average
Primary	81.71	77.05	77.35	73.38	75.71	76.65
Secondary	18.29	22.95	22.65	26.62	24.29	23.35

Average repeat c/s rate in C.H. during 1993-1997 was 98.99 %.

Table 6. Repeat c/s rate in Chao-phy-a-bhai-bhu-bejhr Hospital (1993-1997)

Previous C/S	Year					
	1993	1994	1995	1996	1997	average
Repeat c/s	118	151	185	250	258	193
Vaginal birth	0	0	2	0	0	0.40
% repeat c/s	100	100	98.92	100	100	98.99

Wound infection was the only complication of c/s (0.99 %) in C.H.

Maternal mortality rate of c/s in C.H. was zero.

Perinatal mortality rate of c/s in C.H. was 0.14 %.

Table 7. Complication c/s (%) in Chao-phy-a-bhai-bhu-bejhr Hospital

Complication	Year					
	1993	1994	1995	1996	1997	average
Wound infection	0	2.27	1.48	0.85	0.56	0.99
Maternal mortality	0	0	0	0	0	0
Perinatal mortality	0.62	0.15	0.6	0.10	0	0.14

Discussion

The United States of America National c/s rate in 1980 was 16.5%.⁽²⁾ The USA National Institute of Health panel concluded that "the rising caesarean birth rate is a matter of concern, and set a target c/s rate of 15% of total deliveries by the year 2000, of which primary and secondary rate not exceed 12% and 3% respectively. Thai health region 3, the regional hospitals c/s rate in 1997 were 27.47%, (Prapokklao Hospital 22.55%⁽³⁾) while public and private hospitals were 15.87% and 67.76% respectively. C/S rates in private hospitals were four fold that of the public one. Two third and of c/s cases in Chao-phyu-abhai-bhu-bejhr Hospital were private cases. Three quarter of c/s cases in Thai health region⁽³⁾ were primary c/s cases and previous c/s cases had been risen steadily every year (18.29% of all c/s in 1993 to 24.29% in 1997).

Suggestion

The ways to reduce c/s rate without compromising maternal or perinatal outcome are:-

- 1) reduce primary c/s by
 - 1.1 external and internal peer review in order to change doctor practice patterns and the mother's decision,^(4,5)
 - 1.2 equalize physical incentives of vaginal and c/s cases,
 - 1.3 home deliveries by midwives for low risk pregnancies.
- 2) reduce secondary c/s by
 - 2.1 promoting vaginal birth after c/s (VBAC)⁽⁶⁻⁸⁾
 - 2.2 external and internal peer review.

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