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## OBSTETRICS

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# A Survey of Postpartum Morbidity in Ramathibodi Hospital

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## ABSTRACT

**Objectives** To evaluate postpartum morbidity in Ramathibodi Hospital during October and November 1995.

**Design** Descriptive study.

**Subjects** All of puerperal women admitted in postpartum ward during 1st October 1995 to 30th November 1995.

**Methods** Obstetric parameters of each puerperal woman during the study period were recorded on a survey form by the postpartum ward superintendent. Data were analysed statistically using Scientific Packages for Statistical Analysis.

**Results** Eighty-eight percent of the puerperal women during the period of study were between 20-35 years old. Almost 60% of all puerperal women were nulliparous, the mean antenatal visits was 6.3 with a standard deviation of 1.7. The mean gestational age was 38.6 weeks with a standard deviation of 1.7 weeks. Almost 70% of puerperal women delivered normally and there was a caesarean section rate of nearly 20%. There was an incidence of postpartum morbidity of 4.9%, most of which were related to the reproductive and urinary system. There was a 1.7% incidence of immediate postpartum haemorrhage.

**Conclusion** There was still postpartum morbidity of almost 5% of puerperal women at Ramathibodi Hospital during the study period and most of them were related to genitourinary system.

**Key words :** survey, postpartum morbidity

Ramathibodi Hospital has been providing services since 1969 among which obstetric services has played a prominent role. The

number of delivery increased remarkably from 50-60 deliveries per month from the inception of the hospital to about 600 deliveries per month at

present.<sup>(1)</sup> Ramathibodi hospital is known as one of the hospitals in the country with lowest obstetric morbidity and mortality due to her good standard of obstetric practice. Still the obstetric services can not be free of morbidity. Sporadic cases of problematic puerperae have been encountered in postpartum ward. It is worthwhile to have a closer look into characteristics and various obstetric parameters of postpartum complications.

The objective of this study was to evaluate the types and prevalence of postpartum complications occurring in Ramathibodi Hospital during 1st October 1995 to 30th November 1995.

## Materials and Methods

This is a descriptive study in which the data were collected from all non-private puerperal women who were admitted in the postpartum ward during the period of two months from 1st October to 30th November 1995. A specifically designed form was constructed to obtain required obstetric data from each puerperal woman. Each form was completed by residents or the ward superintendent. Data were coded and recorded in a personal computer which is a Pentium®150 MHz. The software employed was the Scientific Packages for Statistical Analysis Software (SPSS for Windows release 6.0). Data were presented in numbers, means and standard deviations, modes and ranges. Postpartum haemorrhage (PPH) was defined as estimated blood loss of 500 ml or more. Immediate PPH was defined as postpartum haemorrhage that occurred just after or within 24 hr after delivery. Urine retention was defined as inability to voluntarily void urine after 6 hr elapsed postpartum and required urethral catheterization. Fever was defined as a temperature of 100.4 °F (38.0 °C) occurring in any two

days of the hospital stay excluding of the first 24 hr and to be taken by mouth at least four times daily. Genital tract infection was defined as having fever with foul smell lochia or subinvolution of uterus or tenderness and feeling of warmth by examiner during pelvic examination. Urinary tract infection was defined as a symptom of dysuria or presence of white blood cells in excess of red blood cells and more than 10 cells per high power field in midstream clean-catch urine. Episiotomy wound infection was defined as a swelling or painful sensation or presence of purulent discharge or cellulitis at the episiotomy wound. Once fever was observed investigations were performed to find out the cause and broad spectrum antibiotics were started promptly. Investigations included complete blood count, urine analysis and culture and sensitivity test of cervical discharge and urine.

## Results

During the period of two months there were a total of 485 deliveries including a pair of twins yielding 486 livebirths. Characteristics and obstetric parameters of the puerperal women are shown in Table 1. Mode of delivery are detailed in Table 2. Summary of postpartum complications are shown in Table 3. Most of the puerperal women (95.1%) had uneventful delivery. Only 4.9% of them experienced postpartum complications, most of which were postpartum haemorrhage, genito-urinary tract infection and episiotomy wound infection. Many of the puerperal women had more than one complications especially those who had postpartum haemorrhage tended to have fever subsequently. Data were limited to period of hospital stay which ranged from 2 to 13 days. Puerperal women with many complications stayed longer in the hospital.

**Table 1.** Obstetric parameters of the puerperal women

Characteristics	n	mean	SD	range	mode (%)	
Age (yr)	485	27.5	4.9	15-42	25-35	(88.1)
Parity	485	0.6	0.7	0-4	0	(57.6)
ANC visits	485	6.3	1.7	0-14	6	(30.3)
1st stage of labour (hr)	392	8.0	4.5	0.3-27.0		
2nd stage of labour (min)	392	26.6	22.6	1-216		
3rd stage of labour (min)	392	7.1	5.3	1-43		
Gest. Age (wk)	485	38.6	1.7	27-42	39	(30.9)
Birthweight (g)	486	3,120.7	195.4	900-4,820	3,000-3,499	(41.2)
Hosp. stay (day)	485	3.7	1.5	2-13	3	(49.3)

**Table 2.** Mode of delivery of puerperal women

Mode of delivery	n	percent
Normal delivery	337	69.5
Caesarean section	94	19.3
V/E	36	7.3
F/E	13	2.7
Breath assisting	6	1.2
Total	486	100.0

**Table 3.** Postpartum morbidities among puerperal women

Postpartum morbidity	n*	percent
No morbidity	461	95.1
With morbidity	24	4.9
PPH	10	2.1
≤ 24 hr	8	1.7
> 24 hr	2	0.4
Fever	6	1.2
Urine retention	6	1.2
GU tract infection	5	1.1
Episiotomy wound infection	5	1.1

\* Some women had more than one morbidity

## Discussion

Postpartum morbidity is difficult to be evaluated epidemiologically due to different use of definitions and diagnostic criteria. The frequently used terminology describing postpartum morbidity are puerperal morbidity, puerperal sepsis, childbed fever, puerperal fever and puerperal infection.<sup>(2)</sup> Each term has similar implication. Most often puerperal morbidity regards to the infection of the reproductive system following child delivery.<sup>(2,3)</sup>

In 1919, the Joint Committee on Maternal Welfare of the United States of America proposed a definition for this condition that considered the fever recording technique and time factor as long as 10 days after delivery as criteria for diagnosis.<sup>(4)</sup> Again, the postpartum period or the puerperium is defined to extend to 42 days after delivery.<sup>(2)</sup> Since most of the puerperal women stayed only 2-3 days in postpartum ward, it is obvious that the incidence of postpartum complications of 4.9% in this study reflects only fraction of the real incidence. It was common to find more than one complications in the same woman.<sup>(2)</sup> The incidence of the puerperal morbidity of 1.2% was quite low when compared to incidence from other studies which ranged from 1-7.2%.<sup>(3)</sup> This certainly can not be used as an index of institutional obstetric performance because of difference in diagnostic criteria. However, there are explanations to this low incidence. First, prolonged labour were virtually uncommon under the active management policy of Ramathibodi Hospital. Hence prolonged labour had been known as a major cause of puerperal morbidity.<sup>(2,3,5)</sup> The brief stages of labour were certainly one of the answer to the low incidence of puerperal morbidity. Another explanation should be the practice of antibiotic administration. As soon as fever was observed, broad spectrum antibiotics were given promptly after blood and

urine specimen were obtained for microbiological study. This would certainly turn some of the cases afebrile and not included in the fever group according to the standard puerperal morbidity criteria.

The incidence of the postpartum haemorrhage of 2.1% in this study was low when compared to the incidence from other studies which ranged between 5-10%.<sup>(2,6)</sup> This might be due to error in detecting and estimating the amount of blood loss which was likely to be subjective and underestimated. Cases of delayed postpartum haemorrhage were also not included in this study. Contrarily, the incidence of the episiotomy wound infection of 1.2% in this study was rather high when compared with incidence from other studies which ranged from 0.05-0.8%.<sup>(2,5,7)</sup> There are several explanations to this high incidence. First, since this study included only non-private cases, all the episiotomy repairs were done by externs and residents. It was obvious that the time required by an extern to repair an episiotomy was much longer than that required by a staff. Suture materials were also required less and tissue trauma was minimal under experienced hands. Second, the criteria for diagnosis of episiotomy wound infection in this study was broad allowing all cases of merely wound swelling or edema to be included. Third, there was no mention about the incidence of the third and fourth degree perineal tear which directly related to subsequent complications.<sup>(7)</sup>

The incidence of the urinary tract infection in this study was not as high as reported by others which ranged 4-5%.<sup>(5,6)</sup> The explanations for this discrepancy may be the same as those stated previously for the fever. All cases of urinary tract infection in this study were symptomatic. Thus cases of asymptomatic bacteriuria were disregarded. Leukocytosis was not included in the

diagnostic criteria of the urogenital tract infection here because of its inaccuracy.<sup>(8)</sup> Bacterial culture and sensitivity was also not much helpful because of low specificity.<sup>(3)</sup>

This study of the period of two months could not elaborate seasonal pattern of the morbidity occurrence. Some of the rare complications such as postpartum musculoskeletal or psychological disorders were not presented. The number of postpartum complications in this study was too few to analytically show correlation with obstetric parameters if there were any.

In summary, 4.9% of puerperal women who delivered at Ramathibodi Hospital during 1st October to 30th November 1995 had postpartum morbidity, 1.2% had fever according to the widely accepted criteria of puerperal morbidity. Urine retention and episiotomy wound infection were found with similar frequency, and 1.7% of puerperal women experienced immediate postpartum haemorrhage.

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