

Perinatal Mortality of Singleton Pregnancy at Nakornpathom Hospital : 1984-1987

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Abstract : *An exploratory research of perinatal mortality was carried out at Nakornpathom Hospital from January 1, 1984 to December 31, 1987. There were 16973 births with a total of 300 perinatal deaths, of which 138 deaths were stillbirths and 162 were neonatal deaths. The perinatal mortality rate was 17.7 per 1000 births. The main cause of death was due to asphyxia which can be reduced by systematically observing and controlling the progress of labour. Any delay in progress or changes that might be hazardous to mother and fetus should be dealt with promptly. (Thai J Obstet Gynaecol 1990; 2: 7-10.)*

Key words : perinatal mortality, singleton pregnancy

Perinatal mortality rate is an indicator of the quality of obstetric and neonatal cares. It also reflects the socio-economic status of the respective community. Constant availability of perinatal health data on a regular basis would help health planners and economists greatly in setting objectives and monitoring the progress to fulfill the ideal of health for all by the year 2000. The objective of this study was to analyse the basic statistics on the

perinatal mortality rate and causes of perinatal death over a four-year period from 1984-1987 at Nakornpathom Hospital. It is hoped that the findings will help to improve the quality of obstetric and neonatal care services and at the same time reduce further perinatal mortality and morbidity at Nakornpathom Hospital.

Materials and Methods

Analysis of the data was car-

ried out on records of patients having delivered singleton births at Nakornpathom Hospital from January 1, 1984 to December 31, 1987. The World Health Organization's definition of perinatal mortality is used⁽¹⁾. It defines perinatal mortality as a total of all stillbirths occurring at or over 28 weeks of gestation and neonatal deaths during the first week. The perinatal mortality rate is defined as the number of perinatal deaths expressed as a proportion of 1000 total births occurring in the same area at the same time. Wigglesworth's classification for perinatal deaths is used in this analysis⁽²⁾.

Results

During the period of study there were 16973 total births. The yearly data of perinatal deaths and perinatal mortality rate are shown in Table 1. There was a total of 300 perinatal deaths, of which 138 deaths were stillbirths and 162 were in the first week of neonatal life, giving the perinatal mortality rate of 17.7 per 1000 births. The perinatal mortality rate fluctuated between 1981 and 1984 (21.3, 15.0, 15.3 and 19.3 per 1000 births, respectively, Fig. 1). The causes of death were due to birth trauma and intrapartum birth asphyxia (26.0%), specific conditions such as alpha-thalassemia, hypertensive disorders in pregnancy, antepartum hemorrhage, syphilis and meconium aspiration syndrome (22.7%), macerated fetus where there were no definite pathological diagnosis due to severe autoly-

sis of the fetuses (22.3%), prematurity (19.0%) and congenital malformation (10.0%), (Table 2).

Table 1 Perinatal mortality of singleton births, Nakornpathom Hospital, 1984-1987

| Years | Births | SB | NND | PMR |
|-------|--------|-----|-----|------|
| 1984 | 4184 | 33 | 56 | 21.3 |
| 1985 | 4413 | 34 | 32 | 15.0 |
| 1986 | 4236 | 33 | 32 | 15.3 |
| 1987 | 4140 | 38 | 42 | 19.3 |
| Total | 16973 | 138 | 162 | 17.7 |

SB = Stillbirths
NND = Neonatal deaths
PMR = Perinatal mortality rate

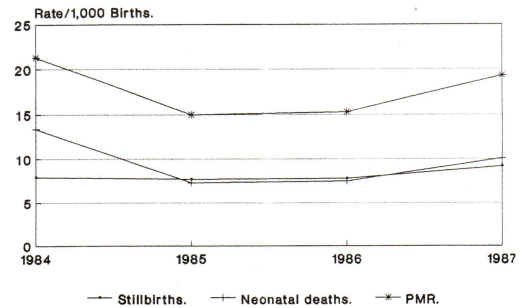


Fig. 1 Percentage mortality of singleton births, Nakornpathom Hospital, 1984-1987

Table 2 Percentage distribution by causes of death, Nakornpathom Hospital, 1984-1987

| Causes of death | 1984 | 1985 | 1986 | 1987 | Total |
|-----------------|------|------|------|------|-------|
| Asphyxia | 30.3 | 31.8 | 15.4 | 25.0 | 26.0 |
| Specific cond. | 12.4 | 28.8 | 27.7 | 25.0 | 22.7 |
| Maceration | 18.0 | 22.7 | 22.7 | 22.5 | 22.3 |
| Prematurity | 25.8 | 10.6 | 20.0 | 17.5 | 19.0 |
| Cong. malform. | 13.5 | 6.1 | 9.2 | 10.0 | 10.0 |

Discussion

The perinatal mortality rate at Nakornpathom Hospital was found to fluctuate between 15.0 to 21.3 per 1000 births in the years 1984-1987. When comparing the perinatal mortality rate with other provincial hospitals, it was nearly the same rate, for example at Saraburi Hospital in the years 1983-1987 the perinatal mortality rate was between 19.6 to 24.4 per 1000 births⁽³⁾. Other factors that might influence the perinatal mortality rate apart from the obstetric care, socio-economic, physical, cultural and environment of the patient are the method of data collection, for example, only single births were included in this study. Other statistics distorted by various factors, e.g. infants discharged home early with their mothers or transferring of neonates to regional medical hospitals may be some of the factors behind the low perinatal mortality rate.

The main fluctuation in perinatal mortality rate is due to the fluctuation in the neonatal death rate, whereas, the stillbirth rate remains fairly constant. The apparent reduction in perinatal mortality rate was mainly from neonatal death. No postmortem was done in this hospital so it is difficult to define the causes of death with certainty. However, to simplify the causes of perinatal deaths, Wigglesworth's classification was used, to which perinatal deaths can be provisionally assigned and clear implications for clinical management pos-

Table 3 Percentage causes of death by birthweight, Nakornpathom Hospital, 1984-1987

| Causes of death | Birthweight | |
|-----------------|-------------|----------|
| | ≤ 2500 g | > 2500 g |
| Asphyxia | 17.4 | 43.4 |
| Specific cond. | 21.4 | 25.3 |
| Maceration | 23.4 | 20.2 |
| Cong. malform. | 9.5 | 11.1 |
| Prematurity | 28.4 | 0.0 |

sible. From this study, it was found that preventable causes of death was asphyxia leading to fresh stillbirths or early neonatal deaths. Totally, this accounted for 26.0% and if we consider a birthweight of > 2500 g asphyxia accounted for 43.4% (Table 3). In this group, the perinatal mortality rate can be reduced by observing and controlling the progress of labour by using the concept of active management⁽⁴⁾, labour graphic records⁽⁵⁾, delivery of the infant in good condition with liberal use of caesarean section for preterm infants in breech presentation or transverse lie, and also administration of beta-mimetic drugs and glucocorticoids to the mother prior to preterm labour. Caesarean section rate in this hospital was 10.3%. Any delay in progress or changes that might be hazardous to mother and fetus are promptly dealt with. Adequate resuscitation at birth and good general management in the newborn intensive care unit will also improve the rate of perinatal loss. By this way, the perinatal mortality rate can be reduced to less than 10.0 per 1000 births without

the use of sophisticated equipment such as electronic fetal monitoring and/or ultrasound in the routine care of the mothers⁽⁶⁾. In order to reduce the perinatal mortality rate further the next step after reducing the preventable perinatal death, the macerated stillbirths should be investigated promptly. The cause of death in this group is unknown but utero-placental insufficiency seems to be the main cause of death especially in high risk pregnancy and can be detected by antepartum monitoring of fetal growth and in cases of suspicion of chronic asphyxia termination of pregnancy has been shown to reduce stillbirth and neonatal death. Intrauterine infection may be the cause of antenatal deaths. In this hospital, antenatal care needs to be improved. Although 75.3% of pregnant women had antenatal care, only 48.8% had 4 or more antenatal visits.

This study may provide some basic data on which decision on appropriate alternative clinical managements as well as to improve facilities can be made at minimal cost.

Acknowledgement

This study was partially supported by Ramathibodi Hospital Research Fund 1989.

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