

# STUDY ON PERINATAL MORTALITY

(A 2 Years' Survey)

by

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Perinatal mortality studies not only provide useful informations regarding the foetal losses but also help in its preventions. Hence this study in undertaken.

## Material and Methods

Seven hundred and thirty-two stillbirths and 752 neonatal deaths (within 1st week of births) occurred during 1978 and 1979 amongst 17431 total births in Eden Hospital. Informations about maternal age, parity, gestational period, socio-economic condition, previous obstetric history of mothers, maternal diseases, the nature of present confinements and other relevant datas were sought. As a routine procedure, V.D.R.L.,

W.R., blood sugar, blood urea, Rh typing were carried out in mothers who gave birth to stillborn babies. Informations about the babies included birth weights, sex, condition at birth etc. complete physical examinations of the babies were conducted in collaboration with paediatricians.

## Observations

Thus the perinatal mortality was 4 times higher in twin pregnancies. Amongst 82 foetal deaths in twin pregnancies, 24 were 1st twin and 58 were 2nd twins. Hence the risk in 2nd twin is higher.

Thus though higher percentages of

TABLE I  
Perinatal Mortality Rate

Deliveries	Viabile births	Live births	Still births	1st week death	Total P.N.M.	Still birth/ 1000 births	P.M.R. 1000/ birth
Single	17191	16498	693	709	1402	40.3	81
Multiple	240	201	39	43	82	162.5	341.6
Total	17431	16699	732	752	1484	43	85.2

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mortality was observed in mothers aged 21-30 years, yet calculated on admission basis, mothers aged below 20 years and above 40 suffered higher foetal losses. Women under 20 had higher incidence of

TABLE II  
Maternal Age and Perinatal Mortality

Age in years	No. of Total births in 2 yrs.	Still births	N.N.D.	Perinatal deaths & % amongst admissions	Percentage of Total P.M.
Up to 20 yrs.	2722	168	137	305 (11.3%)	20.5%
21-30 yrs.	11085	338	387	725 (6.5%)	48.8%
31-40 yrs.	3123	164	174	338 (11.11%)	22.7%
Above 40 yrs.	501	62	54	116 (21.1%)	7.5%

toxaemia, prolonged labour, caesarean sections, etc., hence perinatal mortality was commoner in them. Similarly women above 40 years were always high-risk mothers. Therefore, percentage of perinatal mortality in them was higher.

cases there foetal loss was only 161 (5%) and amongst unbooked cases foetal loss was 1324 (9.5%). Perinatal mortality was thus two times higher in unbooked mothers, as most of them suffered from pregnancy complications and were ad-

TABLE III  
Parity and Perinatal Deaths in Relation to Number of Hospital Admissions

Perinatal deaths	Primi 6950	P <sub>1</sub> + 0 6950	P <sub>2</sub> + 0 2959	P <sub>3</sub> + 0 1331	P <sub>4</sub> + 0 596	P <sub>5</sub> + 0 539
Still birth	305	101	104	98	52	72
N.N.D.	307	97	98	95	59	86
Total %	612 (9%)	198 (4.1%)	202 (6.8%)	193 (14.4%)	111 (18.7%)	168 (27.4%)

Table III shows that a relationship exists between birth order and perinatal mortality, which was higher in 1st born, dropped in 2nd and 3rd borns and rose after 4th.

#### Socio-economic condition

Total 1085 (73%), 526 stillbirths and 559 neonatal deaths occurred in poor families. Most of the patients in this series were anaemic which in addition to its effects on maternal health were also responsible for low birth weights of babies, lessening their chances of survival.

#### Antenatal Care

Amongst total 17191 mothers, only 3218 were booked cases. Amongst booked

mitted late in labour with malposition, malpresentations, etc.

#### Perinatal Deaths in Relation to Gestational Period

Less than 38 weeks there were 858 deaths (57%), 428 S.B. and 430 N.N.D.. More than 38 weeks there were 626 deaths (43%), 304 S.B. and 322 N.N.D. Thus perinatal mortality was higher when gestational period was less than 38 weeks.

#### Perinatal Deaths and Birth Weights

When birth weight was less than 2500 gms there were in 960 (63%) deaths, 464 stillbirths and 496 N.N.D. When birth weight was more than 2500 gms there were 524 (37%) deaths, 267 stillbirths

and 257 N.N.D. Perinatal mortality was thus two times higher in babies weighing less than 2.5 kg.

#### *Sex and perinatal mortality*

Eight hundred and sixty (57%) were males and 625 (43%) were female babies, showing higher perinatal loss amongst male babies.

tory distress syndrome 30, septicaemia 35, meningitis 9.

In the remaining 504 cases, prematurity alone was responsible for 262, prematurity with asphyxia in 62, other complications of prematurity in 64 birth injury in 18, congenital malformations in 19, haemolytic disease of the newborn in 18, cardio-respiratory failure from un-

TABLE IV  
*Factors Associated With Perinatal Mortality*

<i>Factors</i>	<i>S.B.</i>	<i>N.N.D.</i>	<i>Total &amp; %</i>
Toxaemia	135	130	265 (17.8%)
A.P.H.	140	86	226 (15.2%)
Placental factor (small placenta)	7	12	19 (1.2%)
Cord factor (Knots)	3	4	7 (0.48%)
Difficult, prolonged labour etc.	103	96	199 (13.4%)
Cord prolapse	43	18	61 (4.1%)
Malpresentations	78	68	146 (9.8%)
P.R.M.	18	12	30 (2.02%)
Postmaturity	12	8	20 (1.3%)
Malformations	27	9	36 (2.4%)
Maternal diseases (Anaemia 58, diabetes 25, heart disease 16, high B.P. 9)	65	43	108 (7.2%)
Haemolytic disease of babies	2	18	20 (1.3%)
Intranatal asphyxia (SB) and neonatal diseases (N.N.D.)	99	248	347 (23.3%)
<b>Total</b>	<b>732</b>	<b>752</b>	<b>1484</b>

Amongst 103 cases of prolonged and difficult labours, there were 18 uterine ruptures with 18 foetal deaths. Table IV shows that maternal toxaemia, A.P.H., difficult labour, including 18 uterine ruptures, malpresentations and maternal diseases were associated with higher perinatal deaths.

#### *Causes of First Week Deaths*

Neonatal disease in 248, which included acute gastroenteritis 29, asphyxia neonatorum, 79, aspiration pneumonia 34, bronchopneumonia, 16, congenital heart disease 4, neonatal jaundice 12, respira-

explained etiology 27, intracranial haemorrhage 7, and unknown causes in 32.

#### *Congenital Malformations*

There were 36 cases of congenital malformations which were incompatible with life, 27 amongst stillbirths and 9 amongst neonatal deaths. Amongst these 36 cases, 14 were anencephaly, 9 were hydrocephalus 3 was meningocele, 1 was ectopia cardis, 1 sacrococcygeal tumor, 2 omphalos, and in 1 there was absence of chin plate and anterior portion of neck, spina bifida 5.

TABLE V  
Methods of Delivery and Perinatal Mortality

Methods	Total deaths & %	Total no. of individual deliveries	Perinatal loss % amongst individual methods
Spontaneous cephalic deliveries	993	13009	0.77%
Forceps	89	1816	5%
C.S.	149	1962	7.5%
Breech delivery	201	595	33%
Destructive opn.	34	34	110%
Other methods (Ventouse, version etc.)	8	15	50%

Perinatal mortality was highest amongst other methods and breech delivery. Distribution of different presentations in perinatal mortality (Table VI).

Parity also played a significant role in perinatal mortality. Parity higher than 4 carried significantly higher perinatal death rate.

TABLE VI

Presentations	Total deaths	Total deliveries during that period	% in foetal mortality	% in perinatal mortality
Vertex	1188	16336	7.2	80%
Breech	209	595	35	14%
Transverse	45	86	48	3%
Face & Brow	20	43	48	1.5%
Compound	22	25	88	1.5%

#### Comments

The perinatal death rate of the present series corresponded nearly to those of other Indian reports but was higher than that of developed countries.

It was four times higher amongst twin pregnancies and 2nd twin was observed to be more vulnerable. Social factors, economic status and antenatal care played a major role in the high perinatal mortality rate of this hospital as most of the patients belonged to low socio-economic class and did not avail the facilities of antenatal check up.

The present study further showed that mothers belonging to 21-30 years were more prone to suffer from perinatal loss.

Maternal toxæmia, A.P.H., maternal diseases (anaemia, diabetes heart diseases), foetal malformations, malpresentations were the common predisposing factors for this higher percentages of foetal losses in this series. Similarly, presentations and mode of delivery also influenced the perinatal loss.

Most of these perinatal deaths could have been avoided if proper preventive measures had been taken. Pregnant mothers should be followed throughout antenatal, intranatal and postnatal periods. As neonatal infection was found to be one of the important cause of perinatal mortality, it should be prevented. Cross infections, bacterial resistance are also becoming a problem in neonatal infections.

Prematurity is one of the important causes of neonatal deaths and measures to prevent prematurity should be instituted to lower the present high perinatal deaths.

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The Editors

Case 1

Case 1. A 27-year-old woman, 3rd para, 2nd child, delivered a male child at 36 weeks of gestation. The child weighed 2.5 kg and was 45 cm long. The mother had a history of hypertension during pregnancy. The child died on the 2nd day of life due to respiratory distress. Autopsy revealed pulmonary hypoplasia and hyaline membrane disease.

Case 2

Case 2. A 28-year-old woman, 4th para, 3rd child, delivered a male child at 35 weeks of gestation. The child weighed 2.2 kg and was 43 cm long. The mother had a history of diabetes mellitus. The child died on the 1st day of life due to respiratory distress. Autopsy revealed pulmonary hypoplasia and hyaline membrane disease.

of the major fetal surgery but is also an important factor in the aetiology of perinatal mortality. The present study shows that the incidence of prematurity is high in the Indian population. The present study shows that the incidence of prematurity is high in the Indian population. The present study shows that the incidence of prematurity is high in the Indian population.

Summary

The study is based on 12 cases of prematurity during 1975-1978. The incidence of prematurity was 12% and the perinatal mortality rate was 15%. The present study shows that the incidence of prematurity is high in the Indian population.

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