A PROSPECTIVE STUDY OF PERINATAL MORTALITY IN MANIPUR —A PRELIMINARY SURVEY*

by

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Introduction

Perinatal mortality for Manipur, a North-Eastern State of India has never been studied earlier. In a prospective survey made recently in two of State's Hospitals, we found an unexpectedly low figure. The antenatal, natal and postnatal services of the State are still inadequate. The unfavourable topography with a high percentage of illiteracy and low socio-economic status of the people in this State prohibit an uniform distribution of modern obstetrical care to all expectant mothers of the State (Devi and Singh, 1979). Perinatal mortality being the index of health status and obstetrical service rendered to the expectant mothers of a place, it reflects the standard of obstetrical care available at the institutions and the skill of the medical team in them. Perinatal period is variously defined as—(a) from 28 weeks of gestation to 28 day after birth; (b) from 28 weeks of gestation to 7th day after birth; (c) from 20 weeks of gestation to 28 days after birth (Sekhri *et al*, 1975).

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Material and Methods

We selected two hospitals for this survey; one at Kakching, a rural small hospital of this State about 48 Km. from Imphal town and one at Imphal, a referral Central District Hospital. The Central District hospital is a referral hospital and is better equipped with more facilities than the rural one. All the perinatal deaths in these hospitals from August, 1978 to December, 1979 are studied prospectively. We include all the babies with birth weight above 750 gm. and perinatal period of 7 days after birth. The proforma of the Federation of Obsterics and Gynaecological Societies of India for perinatal survey is copied and used for collection of various datas for this study. As far as possible, we have tried to collect all relevant informations to determine the exact cause of death including the family and social background.

Observations

There were 74 perinatal deaths with 2015 total deliveries in the two hospitals during the period of study, giving an incidence of 36.73/1000 births as seen in Table I. All these cases were unbooked and brought to the hospitals as emergency cases after the onset of labour with complications or when complications were expected. In our study, as many as 49 deaths (66.2 per cent) are considered preventable. Of these, 16 (69.6 per cent of the

TABLE I
Incidence

Hospital	Total No. of deliveries	No. of Still-births	No. of Neonatal Deaths	Total	Incidence per 1000
Kakching Hospital	284	15	8	23	80.98
District Hospital, Imphal	1731	27	24	51	29.46
Total	2015	42	32	74	36.73

same hospital) were at Kakching hospital and 33 (64.7 per cent of the same hospital) were at Central District Hospital, Table II. The causes of deaths are summarised in Table III. Foetal asphyxia and prematurity were the major causes for the perinatal loss. Lack of facilities for neonatal care and paediatrician's cover in these hospitals make prematurity and low birth weight often fatal. Maternal conditions and other factors directly leading to death of the babies are enumerated in Table IV. The birth weight distribution of the deaths is shown in Table V and the maternal age and parity distribution in Table VI. Highest number of deaths occurred at 2800-3000 kg weight group followed by birth weight 1300-1500 kg group. At maternal age of 19 years and less with parity 1 and at 30 years and above with parity 5 and above of the mothers, there were maximum numbers of perinatal deaths. There were 28 deaths at 28 to 32 weeks, gestational age of the babies, 14 at 32 to 36 weeks and 32 at 36 to 41 weeks. Highest number of deaths were found at 36 to 41 weeks of gestational age in this study.

TABLE II
Preventable and Non-preventable Factors

Hospitals	Non-preventable	Preventable—(49)					
		Lack of Proper A.N. Care	Failure of timely admission	Error in labour management	Inadequate facilities for neonatal care	Total	Percentage of preventibility
Kakching Hospial	7	5	8	2	1	16	69.56
Central District Hospital, Imphal	18	12	16	2	3	33	64.7
Total	25	17	24	4	4	49	66.2

TABLE III
Causes of Perinatal Mortality

Causes	Kakching Hospital	District Hospital	Total	Percentage
Foetal asphyxia	8	12	20	27.03
Prematurity	6	8	14	18.91
Blood loss	2	10	12	16.22
Combination of multiple factors	5	2	5	9.46
Infection/septicaemia	0	3	3	4.05
Birth trauma	0	2	2	2.70
Cord prolapse	0	1	1	1.35
R.D.S.	1	0	1	1.35
Undetermined	1	13	14	18.91

TABLE IV
Maternal and Foetal Conditions Directly Leading to Perinatal Mortality

Maternal condition	Kakching Hospital	District Hospital	Total	Percentage
Prolonged and difficult labour	5	9	14	18.91
Placenta Previa	1	7	8	10.81
Acc. Hge.	1	4	5	6.76
Cord round the neck	3	1	4	5.41
Anaemia	3	0	3	4.05
Toxaemia	1	1	2	2.70
Hypertension	0	1	1	1.35
Maternal Syphilis	0	1	1	1.35
Cord Prolapse	0	1	1	1.24
Undetermined	9	26	35	47.30
Total	23	51	74	100.0

TABLE V
Birth weight distribution of perinatal deaths

Birth Weight in gm.	Kakching Hospital	Central District Hospital	Total	Percentage
750-1000	—	4	4	5.40
1050-1250	2	6	8	10.81
1300-1500	6	9	15	20.27
1550-1750	1	3	4	5.40
1800-2000	2	7	9	12.16
2050-2250	5	2	7	9.46
2300-2500	1	3	4	5.40
2550-2750	1	2	3	4.05
2800-3000	4	12	16	21.62
3050-3250	1	2	3	4.05
3300-3500	0	1	1	1.35

TABLE VI
Age and Parity distribution of perinatal deaths

Age in Years	PARITY				
	1	2	3	4	5 and above
19 and less	9	2	1	—	—
20-24	7	6	2	—	—
25-29	4	3	6	2	2
30-34	—	—	3	3	7
35-39	—	2	—	1	7
40 and above	—	—	—	—	7
TOTAL:	20	13	12	6	23
Percentage	27.03	17.56	16.21	8.11	31.10

Discussion

Perinatal mortality has appreciably dropped down in most of the developed countries but it continues to remain high in many of the developing countries inspite of expanded medical care programmes during the recent years.

We had a very high rate of stillbirths in this series. As shown in Table I, there were 42 (57%) stillbirths in this series. Lack of proper antenatal care, failure to attend A.N. clinics regularly, failure to provide adequate facilities and ignorance on the part of the patients contribute appreciably to perinatal loss. In this series, more than 66.2 per cent (49 cases) of perinatal deaths were preventible. Twenty-four deaths were from delayed admission in the hospital, 17 from lack of proper antenatal care and 8 cases from lack of adequate facilities in the hospitals as well as error in management of labour. Antepartum and intrapartum foetal asphyxia took maximum number of lives in this series. Prolonged difficult labour, placenta praevia and accidental haemorrhage have contributed to foetal asphyxia. No definite cause of death could be ascertained in 35 stillbirths as postmortem examination was not usually done. Prematurity accounts for 18.92 per cent of all perinatal deaths. In our study, maximum deaths occur within birth weights 1300-1500 gm and 2800-3000 gm but no definite relevance could be proved so far.

As seen in Table VI, the highest number of perinatal deaths occurred above 30 years of maternal age and at parity 5 and above. This is followed by maternal age of 19 years or less at parity 1. Our findings further stress the need for adequate antenatal care and hospital confinement for all grand multiparae and primigravidae.

The existing medical facilities of the State and Obstetric Service in all the hospitals of this place may contradict the low figure of perinatal mortality rate observed by us. This demands further and elaborate study in future. But we should apologically admit that the entire population of this State show a very high degree of natural resistance and adaptibility to all kinds of nutritional strains as well as disease processes. This could be authenticated by the low mortality rate, absence of hospital complications specially among surgical cases and also shorter period of hospital stay of the cases. Surprisingly, we find a very low rate of mortality in the

rural hospitals considering the available facilities and lack of adequate experience of the staffs. We purposefully avoided cases at R.M.C. Hospital, the only premier teaching hospital of the State, as it might lead to misunderstanding and misrepresentation of the real incidence of the State, because of its involvement in teaching programme and also being the final referral institution. Improvement of medical and health care facilities with introduction of mass education to the public will facilitate to avoid many cases of perinatal loss. Adeqate antenatal obstetric service and provision for hospital delivery of all high risk cases will further minimise the perinatal loss of this State.

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