

A THREE YEARS' STUDY OF PERINATAL MORTALITY IN A RURAL MEDICAL COLLEGE HOSPITAL

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Since the turn of present century attempts have been made to lower the death of new born babies and later attention was drawn towards the unborn babies in utero in order to get a living baby. No doubt the intrauterine period of foetal life and first week following birth represent the most hazardous period where a living object fights hard in its struggle for existence and survival. In the reports from various Indian Centres, perinatal mortality rates have varied from 35 to 75/1000 total births. But most of these centres are situated in cities or big towns. The present series is being reported from a centre which came into existence in 1976 and is situated in an absolutely rural area in northern hilly district of Darjeeling of West Bengal. Being a referral hospital, it caters treatment to the patients of those hilly regions of Darjeeling and also bordering areas of Sikkim, Bhutan and South East Nepal. Communication and conveyance in those regions are absolutely poor. Practising modern obstetrics is a myth here. Primitive obstetrics is still rampant and delivery of the pregnant patients are left to the mercy of village Dais and Quack practitioners. Patients

are often admitted after 3 to 4 days of gruelling labour and after repeated adventurous manipulations have failed to deliver the baby. It is in this background, the perinatal mortality here has taken the shape of an almost astronomical figure of 171.6/1000 total births.

Material and Methods

The present study includes 232 perinatal deaths which include still births and deaths occurring within first 7 days of life in babies weighing 500 gms. or more. These deaths occurred in 1377 total births which took place in the North Bengal Medical College Hospital over 3 year period (September 1976 to August 1979) giving an incidence of 171.6/1000 total births. Here prematurity has been defined as births occurring prior to 37 completed weeks of gestation.

Observations and Discussions

Since inception of this hospital, the total number of deliveries are increasing slowly but steadily from 300 in 1977 to 577 in 1979. People in surroundings are becoming more conscious about presence of this Institution and as facilities here are improving perinatal death rate also is diminishing over years 1976 to 1979.

On splitting the total perinatal deaths, number of still births were far above neonatal deaths (Table I). Out of total 232 deaths, 145 (i.e. 62.5%) were still births.

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These were mostly the result of prolonged, neglected labours. In most of the cases, (i.e. 120 or 76.5%) foetal heart sounds disappeared during labour. In a small proportion of cases although foetal heart sounds were present at the time of admission, active management or operative delivery was perhaps not a wiser decision—mainly for maternal safety.

But overall the picture is quite unsatisfactory. More than 60% of the total patients delivered, are unbooked. Whereas the main brunt of perinatal losses fell on the unbooked cases, there were comparatively fewer deaths amongst booked cases.

What is most concerning is the fact that young mothers between age group of 15

TABLE I
Perinatal Deaths: Still Birth and Neonatal Death

Year	Number of still birth	Still birth rate/1000	No. of Neonatal Deaths	Neonatal Death Rate/1000
1976 to 1977	43	143.3	12	46.6
1977 to 1978	55	110	38	87.6
1978 to 1979	47	81.4	37	69.8
Total	145	111.5	87	68

It goes without saying that regular antenatal check up helps in reducing perinatal mortality by early identification and management of preventable factors. This was reflected in the fact that 216, (93%) of the cases of perinatal death were unbooked cases (Table II). It can be observed that over years more and more patients are being booked and delivered safely (Table III).

TABLE II
Incidence of Unbooked and Booked Cases Amongst the Perinatal Deaths

A.N.C. Booking	No. of patients	Percentage
Unbooked	216	93%
Booked	16	7%

to 29 and of low parity—from primigravida to third gravida—lost their babies (Table IV). This group consisted of 133 deaths out of the total of 232 deaths. Prolonged labour and toxæmia of pregnancy of various degrees were mostly responsible for perinatal loss in these cases.

Whenever there was any perinatal death without any identifiable obstetric factor attempt was made to investigate these mothers with limited facilities available here. Medical factors attributable to perinatal deaths are shown in Table V. Severely anaemic women (Hb% less than 6 gm%) with heart failure are not infrequently seen here.

TABLE III
Incidence of Perinatal Deaths Amongst Booked and Unbooked Cases

Year	Total No. of Patients	Unbooked	Death	Booked	Death
1976 to 1977	300	200	51	100	4
1977 to 1978	500	320	87	180	6
1978 to 1979	577	370	78	207	6
Total	1377	890	216	487	16

TABLE IV
Perinatal Mortality in Relation to Parity and Age of Mother

Parity	Age in Years						Total
	15-19	20-24	25-29	30-34	35-39	40 and above	
0	24	46	3	5	2	0	80
1	3	22	8	7	2	0	42
2	1	11	15	10	1	0	38
3	0	3	12	12	3	1	31
4	0	0	7	4	3	2	16
5 and above	0	1	2	6	11	5	25
Total	28	83	47	44	22	8	232

Four of these 7 mothers died before they delivered.

TABLE V
Associated Medical Factors Related to Perinatal Deaths

Maternal Factors	No.	Still Birth	Neonatal Death
Severe anaemia	7	5	2
Diabetes	1	0	1
Syphilis	2	2	0
Hypertension	1	1	0
Liver disease	4	2	2
Total	15	10	5

Table VI shows distribution of birth weight and period of gestation amongst 145 still births. It can be seen that 39 babies were mature both by weight as well as by period of gestation. Most of these cases had obstructed labour and many of the babies were delivered after a destructive operation. However, in the similar table (Table VII) for 87 neonatal deaths there were 12 mature babies. Intracranial stress and infection were mostly responsible for these deaths.

The different obstetric factors listed in Table VIII point towards prolonged labour, malpresentation, toxæmia and

TABLE VI
Distribution According to Birth Weight and Period of Gestation in 145 Cases of Stillbirth

Birth Weight (In Kg.)	Gestation in Weeks				Total
	32<	32-37<	37-40<	40 and above	
500 gms— 1<	4	6	1	1	12
1-1.5<	9	7	2	0	18
1.5-2<	0	12	16	0	28
2-2.5<	0	4	43	1	48
2.5-3<	0	0	29	0	29
3 and above	0	0	10	0	10
Total	13	29	101	2	145

TABLE VII

Distribution According to Birth Weight and Period of Gestation in 87 Cases of Neonatal Death

Birth Weight (In Kg.)	Gestation in Weeks				Total
	32<	32-37<	37-40<	40 and above	
500 gms- 1<	6	3	0	0	9
1-1.5<	7	19	6	0	32
1.5-2<	0	6	7	0	13
2-2.5<	0	4	17	0	21
2.5-3<	0	0	11	0	11
3 and above	0	0	0	1	1
Total	13	32	41	1	87

TABLE VIII

Associated Obstetric Factors Related to Perinatal Deaths

Obstetric Factors Associated with Perinatal Deaths	No.	Still Birth	Neonatal Death
Prolonged and Obstructed Labour	26	19	7
Eclampsia	16	11	5
Severe P.E.T.	14	5	9
Accidental haemorrhage	13	11	2
Placenta praevia	15	10	5
Unclassified A.P.H.	2	1	1
Transverse lie	33	27	6
Ruptured uterus	8	8	0
Cord prolapse	3	2	1
Breech	7	3	4
Twin	11	4	7
Congenital anomaly	12	7	5
Total	160	108	52

haemorrhage as major factors. Neglected cases of transverse lie (sometimes with prolapse of an arm) are somewhat commoner in this area.

Roughly 50% of the cases had operative or instrumental delivery (Table IX). Most of the cases of spontaneous vaginal delivery were premature deliveries (87 cases). It is sad that 44 patients had caesarean section and the babies were lost. These sections were mostly done in maternal interest.

TABLE IX
Mode of Delivery

Spontaneous Vaginal Delivery	110
Caesarean Section	44
Caesarean Hysterec- tomy	8
Forceps	15
Ventouse	4
Assisted Breech Delivery	20
Destructive Operation	31
Total	232

This analysis in detail points towards many facets of Social Obstetrics. Building big hospitals and Medical Colleges in rural areas is definitely desirable but it can not be the only solution to the rural problems. It has been observed that in spite of existence of health centres or hospitals around—expectant mothers are not attending the antenatal clinics. Many of the conditions leading to perinatal deaths could have been detected and taken care of during antenatal check-up. Periodic home visits by the medical or nursing teams may be helpful in this respect. But we feel imparting training to the village 'dais' or mid-wives will perhaps go a long way in identifying atleast some of the high-risk factors and timely referring these cases to proper place. Minimum obstetric training to the medical personnel in health centres is also essential to help them to decide about referring a case well in time.

It goes without saying that establishment of nursery and premature baby unit which are still lacking in this Institute will definitely improve the neonatal salvage rate. Providing vehicles in all peripheral centres and building up of communication facility which are perhaps more in the hands of administrators than the scientists, are urgently required in many parts of hilly regions.

Most of these deaths presented in this study were preventable provided regular antenatal care had been given to these patients and they were taken to the hospital in time. It is just not sufficient to build up hospitals in rural areas and blame the

ignorance of the patients regarding health care to prevent such deaths. It is also the duty of the administrators, social workers and conscientious people at large to move towards building of proper communication facilities in these hilly rural regions and till that time instead of waiting in the big hospitals for patients to come after becoming learned, the frequent home visits by medical teams will probably help in minimising the present high rate of foetal and neonatal wastage.

Summary

A three year perinatal mortality survey from the recently established rural institution of North Bengal Medical College and Hospital in the district of Darjeeling, bordering with hilly regions of Sikkim, Bhutan and Nepal have been reported. A very high rate of (171.6/1000) perinatal death has been reported from 232 deaths out of 1377 total births. Neglected labours constitute the most important factors for such deaths in this region. Ignorance and apathy on the part of patients to seek timely advice and lack of communication facilities are major hindrances towards imparting timely obstetric management.

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