

The Study of Perinatal Mortality in a Rural Area

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Summary:

In this study, 436 perinatal deaths were observed out of 5191 deliveries; i.e. PNMR of 83.99 per 1000 deliveries. The stillbirth rate was 56.82 per 1000 deliveries and neonatal mortality rate was 28.80 per 1000 live births. Low birth weight babies had significantly higher perinatal mortality. Perinatal deaths were more in grandmultiparas. Antenatal care showed significant influence on perinatal mortality. Teenage pregnancy formed high-risk group. Perinatal mortality was higher in multiple pregnancy than in singleton pregnancy. Prematurity, APH, PIH, prolonged labour, RDS, congenital malformations were the most frequent causes of perinatal deaths. In 17.66% of cases the cause of death was undetermined. Regarding mode of delivery the highest perinatal mortality was seen in spontaneous cephalic deliveries.

Introduction

The primary reason for studying the dead is to save the living. As the cause of death and disease during the intrauterine life and early neonatal period are in many cases common, it is decided to study them together.

The perinatal mortality is taken as an index of the efficiency of not only antenatal and intranatal care, but also of the socio-economic conditions of the community. The last fifty years have been monumental not only in the history of obstetrics, but also of medicine in general. It saw the birth of chemotherapy, closely followed by antibiotics, the establishment of organized blood transfusion services, improvement in anaesthesia and operative obstetrics and the introduction of routine antenatal care. The perinatal mortality in India is falling because of this. Though this fall is encouraging, it is still very high as compared to that of the technologically advanced countries. It is higher in rural areas compared to the urban areas.

This study is a presentation of perinatal deaths

in a rural area and our aim is to find out and adopt measures to reduce the perinatal mortality.

Materials and Methods

This study was carried out at the Obstetrics and Gynaecological department of S.R.T. Rural Medical College, Ambajogai for a period of two years from June 1993 to May 1995. All perinatal deaths i.e. still births and neonatal deaths within seven days after birth were studied.

Tables I to VIII

Table I: Incidence of Perinatal Mortality

1. Total deliveries	5191
2. Total live births	4896
3. Perinatal deaths	436
4. Still births	395
5. Neonatal deaths	141
6. Perinatal Mortality rate per 1000 deliveries	83.99
7. Stillbirth rate per 1000 deliveries	56.82
8. Neonatal mortality rate per 1000 live births	28.80

Table II : ANC registration and PNM

	Booked	Unbooked	Total
1. Total deliveries	2077	3114	5191
2. Perinatal deaths	160	276	436
3. PNMR per 1000 deliveries	77.03	88.63	83.99

Table III: Birth-weight and PNM

Birth weight (gm)	Total deliveries	Perinatal deaths	PNMR/1000
1. 500-999	57	57	1000
2. 1000-1499	286	123	430.07
3. 1500-1999	958	88	91.86
4. 2000-2499	1684	78	46.32
5. 2500 & above	2206	90	40.80

Table IV: Parity and PNM

Parity	Total deliveries	Perinatal deaths	PNMR per 1000
1. P1	1805	174	96.40
2. P2	940	49	52.13
3. P3	1117	74	66.25
4. P4	854	69	80.80
5. P5 & above	475	70	147.37

Table V: Maternal Age and PNM

Age group in years	Total deliveries	Perinatal deaths	PNMR per 1000
Less than 20	1008	152	150.79
21 to 30	2088	139	66.57
31 to 40	1757	104	59.19
40 and above	338	41	121.3

Table VI: Multiple pregnancy and PNM

	Total deliveries	Perinatal deaths	PNMR per 1000
Single	4953	411	82.98
Multiple	238	25	105.04

Table VII: Causes of perinatal mortality

Cause	Deaths	Percentage
1. Antepartum Haemorrhage	35	8.03
2. Severe Toxaemia	27	6.19
3. Eclampsia	20	4.59
4. Prolonged Labour	36	8.26
5. Severe Anaemia	10	2.29
6. Diabetes Mellitus	01	0.23
7. Viral Hepatitis	03	0.69
8. Cord Problems	17	3.90
9. Post-Maturity	05	1.15
10. Prematurity	54	12.38
11. Birth Asphyxia	11	2.52
12. Congenital Malformations	38	8.71
13. Respiratory Distress Syndrome	36	8.26
14. Septicaemia	07	1.60
15. Rh. Incompatibility	02	0.46
16. Undetermined	77	17.66

Table VIII : Method of delivery and PNM

Method of delivery	Deliveries	Deaths	PNMR per 1000
1. Spontaneous cephalic	3691	331	89.68
2. LSCS*	635	53	83.46
3. Breech	389	30	77.12
4. Forceps	281	14	49.82
5. Ventouse	195	08	41.03

* Including rupture uterus

Observations and Discussions

The incidence of perinatal mortality in our study was 83.99 per 1000 deliveries. Our hospital is a referral hospital situated in a rural area, where a large number of patients are referred from PHCS and nearby hospitals. The PMNR as reported by various authors is as follows: Pillai et al (1993) – 49.37 per 1000, Aras et al (1990) 46.32 per 1000, Bhavsar and Shrotri (1989) 99 per 1000. Swain et al (1993) have reported PNMR as 85.6 per 1000 in rural Varanasi and 95.0 per 1000 in BHU hospital.

Still birth rate in our study was 56.82 per 1000 deliveries and reported by various authors Nayak and Dalal (1993) as 23.4 per 1000, and Lopez and Deshmukh (1986) as 27.05 per 1000.

Neonatal mortality rate in our study was 28 per 1000 live births and by various authors was 16.64 per 1000 Lopez and Deshmukh (1986) and Bhavsar and Shrotri (1989) 44.67 per 1000.

Antenatal care during pregnancy showed significant influence on perinatal outcome. More perinatal details occurred in patients not receiving antenatal care. These findings are consistent with those by Lopez and Deshmukh (1986), Bhavsar and Shrotri (1989) and Swain et al (1993).

Maximum perinatal deaths occurred in low birth babies, similar findings are reported by Aras et al (1990), Pillai et al (1993) and, Lopez and Deshmukh (1986). 100% mortality was seen in babies with birth weight of less than 1000 grams. Similar findings recorded by Bhavsar and Shrotri (1989). Highest perinatal mortality was recorded in Para 5 and above. High perinatal mortality was also noted in primiparas. This is compatible to findings by Aras et al (1990), Lopez and Deshmukh et al (1986), Bhavsar and Shrotri (1989).

Teenage pregnancy is a high risk group for perinatal mortality. Perinatal mortality was also high with maternal age above 40 years. These findings are compatible with studies by Lopez and Deshmukh (1986), Aras et al (1990), Bhavsar and Shrotri (1989) and Swain et al (1993).

In present study perinatal mortality in twin pregnancy was 105.04/1000. Nayak and Dalal et al (1991) have reported PNMR of 21.87%, 218.7 per 1000 in twin pregnancy. Table VII shows the causes of perinatal mortality. Prolonged labour, prematurity, eclampsia, and severe toxæmia, antepartum hæmorrhage, RDS were important causes of perinatal mortality. In 17.66% the causes were undetermined. Severe anaemia was main maternal disease responsible for perinatal deaths. Lopez and Deshmukh (1986), Bhavsar and Shrotri (1989), Swain et al (1993) have reported similar causes of perinatal deaths. Table VIII shows method of delivery and perinatal mortality. Perinatal mortality was highest for cephalic deliveries - 89.63 per 1000. S. Bhavsar and Shrotri (1989) reported highest perinatal mortality in breech deliveries i.e. 414.9 per 1000.

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