Perinatal Mortality in Goa Medical College

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Summary

This is a retrospective study of Perinatal Mortality in Goa Medical College for seven years from 1987 to 1993. The perinatal mortality rate is 40.99 with a stillbirth rate of 21.7 and neonatal death rate of 19.1. It was high in the age group >35 and in primigravidas and grandmulitiparas.

Babies with a birthweight of <1kg had 20 times higher perinatal mortality than with birthweight of 2.5kg. Registered cases had a perinatal death rate 14.9 while unbooked cases had a perinatal mortality rate of 123.6. Toxaemia, accidental haemorrhage, congenital anomalies and intra-uterine growth retardation were the commonest causes of stillbirths while prematurity and congenital anomalies were the causes of neonatal deaths.

Introduction

Uptil the 19th century the main occupation of the obstetrician was saving the life of the mother. The child was a minor consideration till the late 1950's when there was a change in attitude towards the well being of the foetus as well. Standards of maternity care have improved in the recent years and the number of perinatal rather than maternal deaths is now used as an index of the quality of maternity care. The overall perinatal mortality in India has shown virtually no decline during the past decade and stands at 49.6/1000 live births.

Material and Method

The present study is an attempt to provide accurate data from Goa Medical College, Panaji based on retrospective survey using accepted definitions. The data is collected from the monthly perinatal mortality meeting proceedings. The study is done as regards the rate of perinatal mortality and the relationship of perinatal mortality to specific biologic factors such as age of the mother, parity, birthweight, antenatal case registration and the causes of perinatal mortality. The study includes urban as well as rural population, illiterate to highly educated, poor to affluent, and high risk as well as routine cases. It represents a mixed composition.

Observation

A total of 17938 deliveries were studied out of

Table I : Yearwise distribution of perinatal mortality

Year	No. of deliveries	stillbirths	Neonatal deaths	Perinatal deaths	Perinatal mortality 1000
1987	2382	71 [29.8]	52 [21.8]	123	51.64
1988	2501	64 [25.6]	52 [20.8]	116	46.38
1989	2642	62 [23.4]	59 [22.3]	121	45.8
1990	2866	54 [18.84]	62 [21.63]	116	40.48
1991	2793	61 [21.84]	54 [19.33]	115	41.17
1992	2663	45 [16.89]	37 [13.9]	82	30.18
1993	2191	34 [15.51]	30 [13.7]	64	31.27
Average	2562	21.7	19.1	105	40.99

Total no. of deliveries - 17,938
Total no. of perinatal deaths - 737

Table II: Maternal age and perinatal mortality

Age in years	No. of deliveries	Perinatal deaths	Perinatal mortality rate
<20	898	47	52.33
21-35	15964	598	37.44
>35	1076	92	85.50

Table III: Parity and perinatal mortality

Parity	No. of deliveries	No. of perinatal deaths	Percentage
P1	6764	351	51.89
P2	5830	185	31.73
P3	3381	103	30.46
P4	1340	51	38.05
P5	623	47	75.44

Table IV: Perinatal mortality and antenatal case registration

Booking	No. of patients	Perinatal deaths	Perinatal mortality rate
Registered	13619	192	14.9
Unregistered	4409	545	123.6

which 17547 were livebirths. The observations are as follows: The average perinatal mortality rate is 40.99

There is stillbirth rate of 21.7 and neonatal death rate of 19.1. The average perinatal mortality rate is lower than the PNMR of India but higher than the PNMR of Goa which is <30. It is because of the fact that Goa Medical College being a tertiary referral centre, it receives unbooked cases from all over Goa and also borders of neighbouring states like Maharashtra and Karnataka. The stillbirth rate is more than the neonatal death rate substantiating the fact that there are late referrals. It is also clearly seen from table I that there is a steady decline in PNMR from 1987 to 1993. This shows an improvement in antenatal care, intensive surveillance in intrapartum period and intensive neonatal care.

Age distribution as observed is shown in table II. The lowest perinatal mortality is in the age group of 21 to 35 years and highest in patients above 35years of age. Also the perinatal mortality is increased when the maternal age is <20.

Table III shows that a woman's first pregnancy carries greater risk than the second and third pregnancies. Similarly the risk for mother and foetus increases with parity of more than 4. It also reflects the acceptance of family welfare program by the community. Over the period of seven years we had only 623 grand multiparas with perinatal death of 75.44%.

Comparison of perinatal mortality in relation to early registration of antenatal cases showed that the perinatal mortality increases with decreasing antenatal care. In patients with no antenatal care perinatal mortality was 10 times higher than in the booked cases. PNMR is 14.9 for booked cases while it is 123.9 for unbooked cases. The very high perinatal mortality is

Table V: Perinatal mortality in relation to birthweight

Birthweight	No. of deliveries	Perinatal deaths	Perinatal mortality rate
<=1.5kg	906	317	35
1.5 to 2.5kg	2788	157	5.63
>2.5kg	14344	263	1.83

Table VI: Clinical causes of stillbirths

Cause	No. of deaths
Toxaemia	108
Accidental haemorrhage	98
IUGR	20
Others	106

Table VII: Clinical causes of neonatal deaths

Cause	No. of deaths
Prematurity	127
Birth asphyxia	91
Congenital anomalies	38
Infection	07
Others	40

basically due to late referrals.

Table V shows the relationship of birthweight to PNMR. Nearly one third of Indian neonates are of low birthweight, weighing <2500gm. At birth, over 70% perinatal deaths occur among low birthweight babies. One of the methods to reduce perinatal mortality to 30-35/1000 livebirths is by decreasing the incidence of low birthweight babies to 10%. It is the single most important determinant of the newborn to survive. In our series there is PNMR of 35 in babies weighing <1kg while it is as low as 1.83 in babies weighing 2.5kg or more.

Table VI shows the clinical causes of neonatal deaths. In the present series the main cause of neonatal death is toxaemia followed by accidental haemorrhage, congenital anomalies and intra uterine growth retardation.

Table VII outlines the causes of neonatal deaths in order of their frequency. Prematurity and birth asphyxia are the commonest causes of neonatal deaths.

Discussion

Our data showed a PNMR of 40.99 as compared to 57/1000 reported by Kameswaran et al 1993 and 38.5/1000 reported by Pradeep et al 1995.

The study conducted by Kameswaran et al (1993) at pondicherry also shows high PNMR, SBR and ENDR in unbooked deliveries like the present study. Also the mortality was reduced with increase in birthweight. Babies weighing >or= 2.5kg had PNMR of 18/1000 compared to present study which showed a PNMR of 5.63/1000 in babies weighing 2.5kg.

Like the present study Pradeep et al (1995) has also reported perinatal hypoxia and congenital anomalies as the leading cause of foetal deaths. The main causes of NND were perinatal hypoxia, infections, congenital anomalies and hyaline membrane disease.

Conclusion

Though India has kept a goal of 'Health for all by 2000' high perinatal mortality still baffles both the obstetrician as well as the neonatologist. Knowing the circumstances in which perinatal death has occurred is called perinatal audit. It can improve the performance by avoiding repetition of mistakes.

Acknowledgement

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References

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