IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 16, Issue 9 Ver. I (Sep. 2017), PP 35-38
www.iosrjournals.org

Perinatal Mortality: An Observ Perinatal Mortality: An Observational Study At Tertiary Centre

Dharmendra Raut[1], Sujata Gujarkar[2], Apurva Thakare[3],Adiba Danish Khan[4],Arshiya Fatima Khan[5]

Associate Professor[1], Assistant Professor[2], Senior Resident[3,]
Department of Obstertics and Gynaecology, GMC Akola, Maharashtra, India
Internee[4] Sion Hospital, Mumbai, Maharashtra, India.
MBBS final year student[5], GMC Akola, Maharashtra, India.

Abstract*: Perinatal deaths are responsible for about 7% of the total global burden of disease. The present study was conducted in tertiary referral institute in Western Maharashtra, India, with a aim to study the frequency, classify the types and analyse the risk factors associated with perinatal mortality. Total number of perinatal mortality and analysis regarding maternal and fetal particulars, the mode of delivery, period of gestation, associated maternal risks, fetal parameters such as sex, birth weight, apgar score were recored. The total number of births during the study period was 6460, with 249 perinatal mortalities accounting to perinatal mortality rate of 50.77 per 1000 live births, comprised of 260 still births and 169 early neonatal deaths. The corrected, extended and factual perinatal mortality rates accounted to 48.14, 66.40 and 19.19 per 1000, respectively. Perinatal mortality rates were highest in teenage group mothers, second gravidae, maternal anaemia and preterm delivery group. The present study has sought to pinpoint various etiological factors which could be largely prevented or even rectified in order to have a better outcome. It is important to note that almost 84.6% of perinatal deaths in the present study had some preventable factor, emphasizing the need for universal and early ANC registration, follow up and better health care provision to pregnant and laboring mothers.*

Keywords: *Neonatal mortality, perinatal mortality,perinatal mortality rate, still births.*

Date of Submission: 23 -08-2017 Date of acceptance: 09-09-2017

I. Introduction

Perinatal deaths are responsible for about 7% of the total global burden of disease.[1]During the last four decades there has been a marked reduction in maternal & perinatal deaths in a developing country like ours. The perinatal mortality rate is the bed index of existing obstetrical and neonatal services especially with the decline of IMR to low level. The perinatal mortality rate has, in recent years assumed a greater significance as a reliable yardstick of maternal & child health care.[2] Firstly two types of death rates-still birth & deaths within first week of life are combined, because factors responsible for these two types of deaths are often similar, being those operating before and around the time of birth. Secondly, proportion of death which occurs after birth are incorrectly registered as still births, therefore inflating still birth rate and lowering the neonatal death rate. However, perinatal mortality rate is not influenced by this error,by removing from consideration the dividing line between a still birth &an early neonatal death .

In India, Perinatal mortality has been a problem of serious dimensions. Mudliar & Reddyin 1924 attempted to study the causative factor. Krishna Menon collected data from the Sample Registration System which provides fairly accurate data & established a figure of 78 per 1000 deliveries in the year 1960. It has shown a steady decline to current perinatal mortality rate of 26 per 1000 births.[3] The present study was conducted in a one thousand and four hundred bedded multidisciplinary tertiary municipal health care referral institute in Western Maharashtra, India, with a aim to study the frequency, classify the types and analyse the risk factors associated with perinatal mortality.

II. Methods

The present observational study included all births in our institute for a period of one year. The WHO definitions for still birth, early neonatal death, perinatal mortality, perinatal mortality rate, corrected, extended and factual perinatal mortality were applied in our study.[4] Total number of perinatal mortality were recorded. Analysis was made and recorded regarding maternal and fetal particulars, the mode of delivery, period of gestation, associated maternal risks, fetal parameters such as sex, birth weight, apgar score. Lastly the cause of perinatal mortality was assessed and co-related with postmortem reports when available.

III. Results

The total number of births during the study period was 6460, with 249 perinatal mortalities accounting to perinatal mortality rate of 50.77 per 1000 live births. Total perinatal mortalities were comprised of 260 still births and 169 early neonatal deaths. The corrected, extended and factual perinatal mortality rates accounted to 48.14, 66.40 and 19.19 per 1000, respectively. Perinatal mortality rates were highest in teenage group mothers, second gravidae, maternal anaemia and preterm delivery group as shown in table 1. The perinatal mortality was higher in male fetuses (54.31 per 1000) as compared to female fetuses (45.69 per 1000). The percentage of perinatal deaths was highest in unregistered pregnancies and in in the 751-1000 gram birth weight group as shown in Table 2. Most common maternal and fetal risk factors associated were anaemia and respiratory distress respectively (Table 3, Table 4). Postmortem analysis was conducted in 62 cases out of which 27 babies showed intracranial heamorrhage (Table.5)

Table 1. MATERNAL AND FETAL PARAMETERS RELATED WITH PNMR.

PARAMETER	PERINATAL MORTALITY (n)	PNMR (per 1000 births)
MATERNAL AGE GROUP		
Teenage (=/< 19 years)	117	18.11
20-34 years	284	14.65
Elderly (=/>35 years)	28	4.33
PARITY		
1	134	20.74
2	140	21.67
3	101	15.63
4	35	5.42
=/>5	19	2.94
MATERNAL ANAEMIA (Hb%)		
<6 gm%	13	3.56
6.1-8 gm%	49	7.59
8.1-10 gm%	194	30.03
>10 gm%	163	25.23
PERIOD OF GESTATION		
<28 weeks	107	16.56
28-34 weeks	166	25.70
34.1 – 37 weeks	55	10.06
37.1 – 40 weeks	72	11.15
40.1 – 42 weeks	24	3.72
>42 weeks	5	0.77
FETAL SEX		
Male	233	54.31
Female	196	45.69

Table 2. PROPORTION OF ANC REGISTRATION, MODE OF DELIVERY AND BIRTH WEIGHT IN RELATION TO PERINATAL MORTALITY

PARAMETER	NUMBER OF PERINATAL MORTALITIES	PERCENTAGE
ANC REGISTRATION		
Registered at our institute	129	30%
Registered outside	189	44.06%
Not registered	111	25.87%
MODE OF DELIVERY		
Vaginal	332	77.39%
Vaginal breech	34	7.93%
Instrumental	5	1.16%
Emergency LSCS	56	13.05%
Elective LSCS	2	0.46%
BIRTH WEIGHT		
501-750 grams	24	5.59%
751-1000 grams	77	17.95%
1001-1250 grams	65	15.15%
1251-1500 grams	50	11.56%

1501-2000 grams	71	16.55%
2001-2500 grams	74	8.62%
2501-3500 grams	64	14.92%
>3500 grams	5	1.17%

Table 3. MATERNAL RISK FACTORS ASSOCIATED WITH PERINATAL MORTALITY

RISK FACTOR	ENND	STILL BIRTH	TOTAL
Medical risks			
Anaemia			
Hb 8-10 gm%	69	125	194
Hb < 8 gm%	41	31	72
Essential Hypertension	0	2	2
Jaundice	-	1	1
DM	-	1	1
Malaria	-	1	1
Bronchial asthma	-	2	2
Pulmonary Koch's	3	-	3
VDRL positive	-	1	1
Obstetric risks			
PIH	9	14	23
Eclampsia	5	3	8
Polyhydramnios	6	2	8
Placenta Praevia	6	5	11
Abruptio placenta	12	6	18
Twin pregnancy	6	4	10
BOH	5	2	7
Intrapartum risks			
PROM	20	12	32
Preterm labour	135	180	315
Prolonged labour	18	14	32
Rupture uterus	-	5	5
Idiopathic	34	40	40

Table 4. FETAL RISK FACTORS ASSOCIATED WITH PERINATAL MORTALITY

RISK FACTOR	ENND	STILL BIRTH	TOTAL
Congenital anamoly	8	29	38
Birth Asphyxia	39	30	69
Respiratory distress syndrome	65	-	65
Septicaemia	55	-	55
Meningitis	8	-	8
Pneumonia	18	-	18
Jaundice	8	-	8

Table 5. POSTMORTEM ANALYSIS IN RELATION TO PERINATAL MORTALITY

AUTOPSY ANALYSIS	PRETERM BIRTHS	TERM BIRTHS	TOTAL
Congenital anamoly	-	2	2
Bronchopneumonia	2	5	7
Meconium Aspiration	-	17	17
Intracranial heamorrhage	18	9	27
Meningitis	3	6	9

IV. Discussion

The perinatal mortality rate in the present study is 50.77% and is comparable to the statistics presented by other studies conducted in India.[5,6,7] The current perinatal mortality rate (PMR) of India (2013) is 26 per 1000 births.[3] It ranges from 16 per 1000 births in urban areas to 28 per 1000 births in rural areas. As with NMR, the PMR is not uniform across the country—the PMR of Kerala is only 9 per 1000 births, whereas that of Odisha is 35 per 1000 births.[3] The stillbirth rate (SBR) is estimated at four per 1000 births.[3] The estimated values of both SBR and PMR are likely to be underestimates, as stillbirths are extremely difficult to capture and may be misclassified.[3,7] This may explain the higher mortality rates encountered in our study as compared to national

statistics. These figures reflect a need to upgrade the socio-economic conditions, literacy, healthcare awareness and primary health facilities in the country. Higher perinatal mortality in teenage and elderly group corresponds to higher incidence of anaemia, malnutrition, cephalopelvic disproportion in younger mothers and more chances of toxemia in the elderly group. Perinatal mortality was higher in unregistered pregnancies and preterm births. Maternal anaemia was the most common and preventable disorder complicating pregnancy and leading to adverse consequences, wheras birth asphyxia and RDS were the most common risks amongst the fetuses. Out of the 62 babies undergoing autopsy, 27 (43.54%) were analysed with intracranial heamorrhage followed next by Meconium aspiration.(n=17, 27.41%).Major global causes of perinatal mortality are asphyxia at birth, low birth weight, and prematurity. Low-cost interventions, including training in neonatal resuscitation[8] and "kangaroo" (skin-to-skin) care,7[9] may effectively reduce deaths from these causes; it has been estimated that introducing these interventions as a package might decrease perinatal deaths by 50% or more.[10,11] The present study has sought to pinpoint various etiological factors which could be largely prevented or even rectified in order to have a better outcome. It is important to note that almost 84.6% of perinatal deaths in the present study had some preventable factor, emphasizing the need for universal and early ANC registrartion, follow up and better health care provision to pregnant and laboring mothers.

V. Conclusion

This comprehensive study depicts the pitfall and gives better idea to upgrade the basic health care providing system. Improving the socio economic status, literacy ,dietary habits and improvising the social customs, standardization of health care system all are the factors directly related to control of Perinatal Mortality Rate. Accessibility to healthcare system just from regular ANC visits and consumption of iron and calcium supplement could reduces the load of Perinatal mortality. Good nutritional diet, proper spacing in childbirth and avoiding very early and late marriages could definitely decrease the curse of Perinatal deaths. Early referral of the patient, timely intervention in terms of instrumentation or surgery will definitely minimise this perinatal loss. Well equipped hospital with adequate number of health professional including obstetrician anaesthesiologist and Neonatologist will prove to be a boon for lowering this mortality rate and at last, not the least; the clinical Perinatal auditing helps to reassess the entire system.

References

[1]. Moss W, Darmstadt GL, Marsh DR, Black RE, Santosham M. Research priorities for the reduction of perinatal and neonatal morbidity and mortality in developing country communities. *J Perinatol* 2002;22:484-95.
[2]. Park, J. and Park, K. (2000). Park's textbook of preventive and social medicine. 24th ed. Jabalpur, India: Banarsidas Bhanot;2000.
[3]. Registrar General of India. Sample registration system (SRS) statistical report 2013. New Delhi: 2013.
[4]. Who.int. (2017). WHO | Maternal and perinatal health. [online] Available at: http://www.who.int/maternal_child_adolescent/topics/maternal/maternal_perinatal/en/ [Accessed 15 Aug. 2017].
[5]. Bhave SA. Trends in perinatal and neonatal mortality and morbidity in India.
[6]. Indian Pediatr. 1989;26(11):1094-9.
[7]. Neilson BB. Reproductive pattern, perinatal mortality, and sex preference in rural Tamil Nadu, South India: community based, cross sectional study. BMJ. 1997; 314:1521.
[8]. Zupan J.Perinatal Mortality in Developing Countries. N Engl J Med. 2005; 352:2047-8.
[9]. Deorari AK, Paul VK, Singh M, Vidyasagar D. Impact of education and training on neonatal resuscitation practices in 14 teaching hospitals in India. Ann Trop Paediatr 2001;21:29-33.
[10]. Conde-Agudelo A, Diaz-Rossello JL, Belizan JM. Kangaroo mother care to reduce morbidity and mortality in low birth weight infants. Cochrane Database Syst Rev 2003;2:CD002771.
[11]. Darmstadt GL, Bhutta ZA, Cousens S, Adam T, Walker N, de Bernis L. Evidencebased, cost-effective interventions: how many newborn babies can we save? Lancet 2005;365:977-88.
[12]. Haws RA, Thomas AL, Bhutta ZA, Darmstadt GL. Impact of packaged interventions on neonatal health: a review of the evidence. Health Policy Plan 2007;22: 193-215.

*Dharmendra Raut. "Perinatal Mortality: An Observational Study At Tertiary Centre." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) 16.9 (2017): 35-38