Neonatal Disease Profile in Larkana Before and After Establishment of Neonatal Ward

Pages with reference to book, From 235 To 236

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Abstract

This is a study of 2050 neonatal admissions excluding neonatal tetanus in children hospital CMC Larkana from December, 1988 to July, 1993. Six hundred and eighty-nine cases were admitted in General Paediatrics Ward before establishment of neonatal unit and 1361 cases were admitted in neonatal ward. The aime of study was to compare the disease pattern and mortality rates before and after establishment of a neonatal unit in the same hospital. Number of admissions significantly increased after the establishment of neonatal unit but there was no decline in the mortality. Changes in disease pattern were observed particularly for Gastroenteritis and miscellaneous (undetermined) category. Seventy percent of admissions were males in 1st week of their life. Commonest cause of admission and mortality was birth anoxia (JPMA 45: 235, 1995).

Introduction

Neonatal deaths account for 40% of all childhood deaths[1]. To reduce neonatal mortality and childhood morbidity attempts are being made to improve neonatal services. A neonatal unit with a bed capacity of 15 (7 incubators and 8 cots) was established in Children Hospital, Chandka Medical College, Larkana in February, 1991. This study was undertaken to assess whether the addition of this facility has changed the pattern of admissions and mortality rate in the Children Hospital.

Patients and Methods

Case records of 2050 neonates excluding neonatal tetanus admitted to Children Hospital from December, 1988 to July, 1993 were reviewed. Six hundred and eighty-nine cases were admitted in General Paediatnc Ward and 1361 in neonatal unit. These two groups were compared to determine the impact of establishment of new unit on disease pattern and mortality of neonates. Cases when diagnosis could not be established were placed in undetermined category.

Results

In the neonatal ward the number of admissions increased from 689 to 1361 with highest rate recorded during summer (July to October). Male admissions were three times more (1486) than female (547) and ratio of M:F admission was same in general wards. Maximum admissions were on the 1st day of life (44.47%) in neonatal ward and 2-7th day (28.7%) in general ward (Table I).

Table I. Age and sex distribution of neonatal admissions.

Age	General Ward				Neonatal Ward			
days	M	F	T	%	M	F	T	%
0-1	132	43	175	25.39	441	159	609	44.74
2-7	143	55	198	28.7	285	118	402	29.53
8-14	90	42	132	19.15	127	49	172	12.63
15-21	76	28	104	15.09	95	33	128	3.96
22-30	58	22	80	11.61	39	15	54	3.96
Total	499	190	689	100	987	374	1361	100

M= Male; F= Female; T= Total ; %= Percent of total admissions

Admission in 1st week of life constituted 75% of the total in neonatal ward and 54% in General Ward.

Table II. Causes of neonatal admissions in children hospital.

Diagnosis	In General Ward		In Neonatal Ward	
	n	%	n	%
Birth Anoxia	189	27.43	553	40.63
Septicaemia	82	11.90	282	20.72
Birth anoxia and septicaemia	10	1.45	52	3.90
Prematurity (preterm/LBW)	38	5.51	125	9.39
Gastroenteritis	97	14.0	54	3.96
Bronchopneumonia	38	5.51	50	3.67
Asp pneumonia	10	1.45	30	2.20
Neonatal jaundice	22	3.19	48	3.52
ICH	3	0.43	18	1.35
HDN	10	1.45	15	1.10
Pyogenic meningitis	14	2.03	8	0.58
Umblical sepsis	7	1.01	6	0.44
Congenital malformation	12	1.74	28	2.05
Birth trauma	-		22	1.61
Cyanotic CHD	7	1.01	10	0.73
Meconium aspiration	-		4	0.29
PDD	24	3.48	34	2.49
IRDS	-		8	0.58
Undetermined	124	17.99	15	1.10

%= Percent of total admissions
ICH= Intracranial haemorrhage
HDN= Haemorrhagic disease of new born
PDD= Post diarrhoeal distension
IRDS= Idiopathic respiratory distress syndrome

Table II shows that the commonest cause of admission was birth anoxia in both general (27.43%) and neonatal (40.63%) wards with a marked difference in percent- age of admission due to asphyxia. Gastroenteritis was the cause for 14% admissions in general ward and 4% in neonatal ward. Miscellaneous (undeternuned) category constituted 18% admissions in general ward as compared to 1.1% in neonatal ward. Preterm/LBW admissions rate increased from 5.5% in general ward to 9.4% in neonatal ward. Common causes of death were birth anoxia, septicaemia and prematurity (Table III).

Table III. Outcome in relation to etiology.

	Death		Discharge		LAMA	
	G	N	G	N	G	N
Birth Anoxia	73	188	85	335	53	30
Septicaemia	33	72	33	190	20	20
Birth anoxia and septicaemia	3	12	3	36	3	4
G. E.	12	2	65	50	16	2
Bronchopneumonia	11	9	21	36	8	5
Neonatal jaundice	3	7	8	40	5	1
Prematurity	23	42	23	76	11	7

G= General Paediatrics Ward
N= Neonatal Ward

Percenntage of cases leaving against medical advice (LAMA) is significantly lower and cure rate (discharge) is higher in neonatal ward as compared to general ward.

Discussion

The results of this study indicate the predominance of male admission over females, which had also been documented ma similar study[2]. This may be due to high frequency of disease in male neonates or cultural preferance given to male children in our society. Pattern of admissions indicates that bulk of the problems encountered by the neonates are on the 1st day of life and then there is a gradual decline in admission rate with increasing age of the baby. Higher admission rate during summer may be because of high birth rate during these months as majority of marriages take place between October and March, hence most deliveries occur between June and October. Main causes of admission were birth asphyxia and/or septicaemia, prematurity, gastroenteritis and bronchopneumonia whereas Akhtar from Peshawar[3] reported infections, neonatal jaundice and congenital anomalies as common causes of admission. High frequency of birth asphyxia and septicaemia in this study is because of inadequate antenatal and natal care and illiteracy and ignorance of mothers. Most of the babies were delivered at home by traditional birth attendents thereby resulting in high frequency of infection. Neonatal jaundice is responsible for 25% of neonatal admissions in Pakistan[4], but it constituted only 3.5% of admissions in this study. The reason for this disparity might be that Arifet al[4] included jaundice as the cause whenever it was detected biochemically whereas in this study it was included as a cause only if that was the sole reason for admission in hospital. The low incidence of IRDS inspite of high rate of preterm deliveries in this study is consistent with reports from other parts of Pakistan[5]. The present study shows various differences in disease pattern after establishment of neonatal unit. Although commonest causes of admission remained unchanged but there were marked variations in percentage of admission due to different causes as shown in Table II. Obvious change was noted in miscellaneous category (18% in general paediatnc ward vs 1.1% in neonatal ward). This difference was due to many cases remaining undiagnosed in general paediatric wards as compared to neonatal ward. Congenital information were seen in 2% cases in this study against 8.3% in Peshawar[3]. Overall mortality rate was

36% with a slightly higher rate (38.5%) in neonatal unit as compared to general ward (31%). Reasons for high mortality are a high rate of preterm/LBW admissions due to birth asphyxia, untrained and insufficient nursing staff, lack of sufficient space in neonatal ward, non availability of ventilators in this unit and exclusion of neonatal tetanus cases from this study..Because a separate ward for neonatal tetanus already existed in this hospital before establishment of neonatal nursery therefore, these cases were excluded. If we include cases of neonatal tetanus in this study then the overall mortality comes down from 36% to 29%. Most of the cases who left against medical advice (LAMA) in general ward would have probably ended up in death, therefore, the high rate of LAMA in general ward gives a false impression of low mortality as compared to mortality in neonatal ward. At times, one had to accommodate up to 25 babies in this small unit which is hardly sufficient for keeping 8 babies and sometimes we had no duty nurse in the evening or night. Mortality was always higher whenever there was overcrowding or non availability of duty nurse. It is concluded from this study that neonatal mortality cannot be reduced by establishing a neonatal ward or unit but for that one needs to have a fully equipped and adequately staffed neonatal unit. As the commonest causes of neonatal mortality in Larkana are birth asphyxia and sépticaernia so more stress has to be laid on improvement in antenatal and natal care.

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