



A STUDY ON THE MORTALITY AND MORBIDITY PROFILE OF NEONATES IN A TERTIARY CARE TEACHING HOSPITAL IN ANDHRA PRADESH- A RETROSPECTIVE STUDY

Neonatology

Pratyusha D.	Junior Resident, Department of Paediatrics, Narayana Medical College and Hospital, Nellore, Andhra Pradesh, India.
Gokul Krishnan R.*	Neonatologist, NICU incharge, Department of Paediatrics, Narayana Medical College and Hospital, Nellore, Andhra Pradesh, India. *Corresponding Author
Divyasree C.	Junior Resident, Department of Paediatrics, Narayana Medical College and Hospital, Nellore, Andhra Pradesh, India.

ABSTRACT

Background: India contributes to nearly 25% of neonatal mortality globally with significant variations in the death rates across various geographic regions. Over the years, the IMR has reduced but the NMR has not decreased proportionately. This study was conducted to evaluate the mortality and morbidity profile in the NICU of a tertiary care teaching hospital in Andhra Pradesh. **Objectives :** To study the mortality and morbidity profile of neonates admitted in Neonatal Intensive Care Unit of Narayana Medical College and Hospital, Nellore. **Materials And Methods:** Type of study :Hospital based Retrospective Observational study. Study population : Neonates admitted in the NICU, Narayana Medical College and Hospital. Study period :12 months from May 2021 to April 2022. **Results :** 1248 neonates were admitted during the study period. 88.2% of the total admissions were inborn neonates while 11.8% of the babies were outborn. Majority were preterm and low birth weight babies. Respiratory distress syndrome (33.4%) was the leading cause of morbidity in the admitted neonates followed by neonatal hyperbilirubinemia(21%), sepsis (19.6%) and meconium aspiration syndrome (15%). NICU mortality during the study period was found to be 1.1%, the major causes of mortality being sepsis (47.2%) followed by congenital malformations (21%) and perinatal asphyxia (19.2%). **Conclusion :** This study identifies prematurity and respiratory distress syndrome as the leading causes of neonatal morbidity and early onset sepsis as the single most common cause of mortality. These outcomes can help in modifying the existing health care services and taking measures to ensure aseptic labor room deliveries for improved care and better prognosis of the newborn.

KEYWORDS

Neonates, NICU, Mortality, Morbidity.

INTRODUCTION

Neonatal period is the most critical and vulnerable period as it influences the survival and well being of a child. Every year, about 4 million newborns die in the first 4 weeks of life, globally. India contributes to nearly 25 % of neonatal mortality globally with significant variations in the death rates across various geographic regions. According to NFHS 5 report, the current NMR in India is 28.7 per 1000 live births. These deaths are preventable in a majority of cases with appropriate and timely interventions. Over the years, the IMR has reduced but the NMR has not decreased proportionately. The target ahead is to reduce the mortality to less than 10 per 1000 live births globally by 2035.

This study was conducted to evaluate the mortality and morbidity profile in the NICU of a tertiary care teaching hospital in Andhra Pradesh which caters to a large population from 5 adjacent districts and functions as a referral center for all high risk pregnancies and neonates.

AIMS AND OBJECTIVES

To study the mortality and morbidity profile of neonates admitted in Neonatal Intensive Care Unit of Narayana Medical College and Hospital, Nellore.

MATERIALS AND METHODS

Type Of Study

Hospital based Retrospective Observational study.

Study Population

Neonates admitted in the NICU, Narayana Medical College and Hospital.

Study Period

12 months from May 2021 to April 2022

Inclusion Criteria

All neonates less than 28 days admitted in NICU during the study period.

Exclusion Criteria

Babies discharged against medical advice.

Babies referred to other centres.

Study Methodology

The babies delivered in our hospital were categorized as inborn and babies delivered elsewhere were categorized as outborn.

A pre-designed proforma was made. According to the proforma data of all admitted babies was listed out and categorized on the basis of age during admission, type of delivery, gestational age, sex, birth weight, inborn or outborn delivery, diagnosis at admission and outcome profile.

Modified New Ballard Score was used for categorizing the babies based on gestational age and birth weight. NNF guidelines was used in diagnosing disease conditions.

Baseline details were entered in MS Excel Spreadsheet and analysis was done using SPSS version 22.0.

Ethical Considerations

The Institutional Ethical Committee approval was obtained to conduct the study.

RESULTS

MORBIDITY	NUMBER	PERCENTAGE
1. IUGR	88	7
2. Neonatal hyperbilirubinemia	262	21
3. TTNB	37	3
4. Perinatal asphyxia	87	7
5. Respiratory distress syndrome	242	19.4
6. Meconium Aspiration Syndrome	181	14.5
7. Pneumonia	26	2.1
8. Pneumothorax	12	0.9
9. Sepsis	195	15.6
10. Infant of diabetic mother	36	2.9
11. Neonatal convulsions	50	4
12. Meningitis	12	1
13. Congenital anomalies	11	0.9
14. Necrotising enterocolitis	3	0.2

OUTCOME	NUMBER	PERCENTAGE
SURVIVED	1234	98.9
EXPIRED	14	1.1

Cause of death	Total number	Percentage
1. Sepsis	5	35.7
2. Prematurity with RDS	2	14.2
3. Perinatal asphyxia	2	14.2

4. Congenital heart disease	1	7.1
5. Congenital anomalies	3	21
6. Severe Meconium Aspiration Syndrome	1	7.1

Total of 1248 babies were included for data analysis, out of which 88.2% were inborn babies and 11.8% were outborn babies. 58.3% of the newborns were males and 41.7% of them were females. 56.9% of the babies were delivered at term. 35.1% of the babies were born preterm while 8% were delivered post term.

The major causes of morbidity requiring NICU admission as observed in the study was neonatal hyperbilirubinemia (21%) and prematurity with Respiratory distress syndrome (19.4%) followed by early onset sepsis (15.6%) and meconium aspiration syndrome (14.5%).

The overall mortality rate during the study period was 1.1% with the greatest risk attributed to sepsis. Other causes of neonatal death in our study were congenital malformations, prematurity with RDS, perinatal asphyxia, congenital heart disease and severe MAS.

DISCUSSION

Accurate data on the morbidity and mortality profile of neonates is essential for health care providers as well as administrators to design necessary interventions.

Hence this study was conducted to evaluate the morbidity profile and various causes of mortality in neonates admitted to NICU of a Medical College affiliated teaching hospital.

In the present study, inborn admissions were 1100 and outborn admissions were 148. There was a slight male predominance (M:F-1.3:1) in our study.

39% babies were low birthweight and 35.1% of babies were born preterm. This could be attributed to the poor maternal health status, poor antenatal care and low socio-economic status of the families. There is a broader agreement that in infants born with LBW, the quality of neonatal care has an important bearing on the outcome while in infants with weight more than 2500gms, mortality rates are significantly influenced by the level of obstetric care and management.

Early onset sepsis was a significant morbidity and mortality causing factor in our study. Strengthening of aseptic precautions in the labor room and focusing on maternal health improvement can effectively reduce sepsis in newborns.

CONCLUSION

Good antenatal care, proper nutrition to pregnant women, timely referral, prevention of preterm delivery and absolute aseptic precautions in labor room and NICUs are vital to reduce the morbidity and mortality in the newborns.

Limitation

Maternal illnesses which have significant implications on the health status of neonates have not been evaluated in the current study.

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