



NEONATAL CARE UNIT; NEONATAL MORBIDITY AND MORTALITY IN THE NEONATAL CARE UNIT OF PEOPLE'S MEDICAL COLLEGE HOSPITAL NAWABSHAH, SINDH.

1. MBBS, FCPS
Assistant Professor
Department of Pediatric Medicine
Peoples University of Medical &
Health Sciences, Nawabshah.
2. DCH, MCPS, FCPS
Professor and Chairman
Department of Pediatric Medicine
Peoples University of Medical &
Health Sciences, Nawabshah.
3. MBBS, M.Phil
Associate Professor
Department of Physiology
Peoples University of Medical &
Health Sciences, Nawabshah.

Correspondence Address:

Dr. Juveriya Shah
Assistant Professor
Department of Pediatric Medicine
Peoples University of Medical &
Health Sciences, Nawabshah.
Ped-2009-1733@cpsp.edu.pk

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Juveriya Shah¹, Ali Akbar Siyal², Tabinda Taqi³

ABSTRACT... Objectives: The objective of this study was to take a look at main causes associated with highest neonatal morbidity and mortality in neonatal care unit of People's medical college hospital Nawabshah. **Study Design:** Retrospective study. **Period:** January 2015 to December 2015. **Setting:** Paediatric medicine ward of People's medical college hospital Nawabshah. **Methods:** The data collected included; sex, gestational age, postnatal age at admission, weight at admission, main cause of admission, outcome, cause of death. **Results:** The number of neonates admitted in NICU was 2863 (14.4%) of the total admissions (19882) to the paediatric unit including neonatal unit during the study period. There were more males 1750 (61.9%) than females. Prematurity, neonatal sepsis and birth asphyxia were the most common morbidities (27.5%, 14.9% and 14.6%, respectively). The overall mortality was 21.93% (628 out of 2863 babies). The morbidities with the highest mortality were birth asphyxia 244(38.85%), neonatal sepsis and meningitis 77 (12.26%), and V.L.B.W (9.03%). **Conclusion:** Birth Asphyxia, neonatal sepsis and meningitis, and low birth weight were the major contributors in admission as well as mortality of newborns, depicting a lack of care and attention in antenatal duration and there is a major lack of training and retraining of birth attendants.

Key words: Neonates, Morbidity, Mortality, Causes.

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INTRODUCTION

In 2010, 7.6 million under five children died world-wide, of these, 3.072 million deaths occurred in the neonatal period.¹ Current global neonatal mortality rate is 30 per 1000 live births.¹ In developing countries like Pakistan, where there is a considerably high birth rate (29 per 1000 population in 2015)², there are many births which are not attended by skilled birth attendants, world wide In many rural areas, only 56 percent of births are attended by skilled professionals.³ There is also another risk factor that plays a significant role in determining the risk of mortality and morbidity in a neonate and that is where that neonate is born that is hospital born or home born neonate, but this factor is not included in this study. Globally 45% of deaths among children under five were newborns in 2015.⁴ The neonatal mortality rate in Pakistan is 45/1000 live births in 2015.⁵ Neonatal mortality rate in Pakistan is improved as

compared to what it was in earlier 64/1000 live births in 1990, but still needs major actions to be taken by all the stake holders as still Pakistan has the third highest rate of neonatal deaths in world and the current rate of decline of neonatal deaths is insufficient to make the sustainable development goal a reality. Globally the major causes of neonatal morbidity and mortality are preterm birth, infection and birth asphyxia and most of these cases are preventable.⁶ The same causes are seen in underdevelopment countries and developing countries like Pakistan. To achieve the target set in sustainable development goals there is much to do regarding antenatal and early neonatal care.³ And the first step to improve these parameters is to first register the data of such cases and only after that it will be possible to take the needed action. This study was done to take look at the most common causes for admissions and mortality in neonates that reach our hospital.

METHODS

This is a retrospective study, done at paediatric medicine ward of People’s medical college hospital Nawabshah, the files of neonates admitted from January 2015 to December 2015. The data collected included; sex, gestational age, postnatal age at admission, weight at admission, main cause of admission, outcome, and cause of death.

RESULTS

The total number of neonates admitted in neonatal care unit of our ward was 2863 (14.4%) of the total admissions (19882) to the paediatric unit during the study period (Figure-1). There were more males 1750 (61.9%) than females among admitted patients (Figure-2). Prematurity, neonatal sepsis and birth asphyxia were the most common morbidities or reason for seeking admissions (27.5%, 14.9% and 14.6%, respectively). The overall mortality was 21.93% (628 out of 2863 babies). The morbidities with the highest mortality were Birth Asphyxia 244(38.85%), neonatal sepsis and meningitis 77 (12.26%), and V.L.B.W (9.03%).

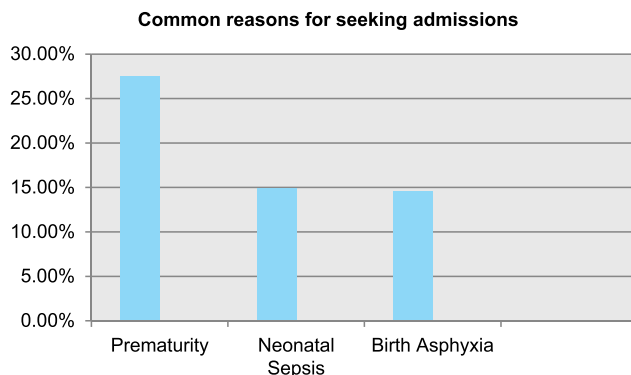


Figure-3. Most common reasons of admission in NICU.

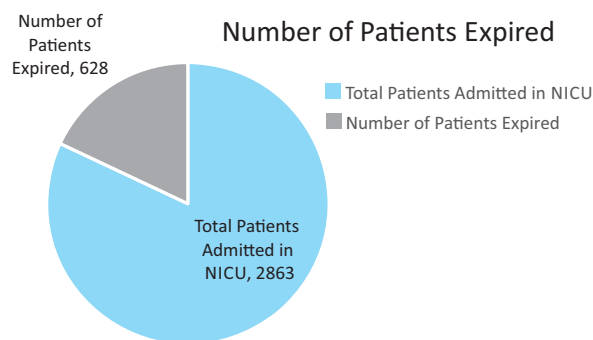


Figure-4. Comparing total admissions and expired patients

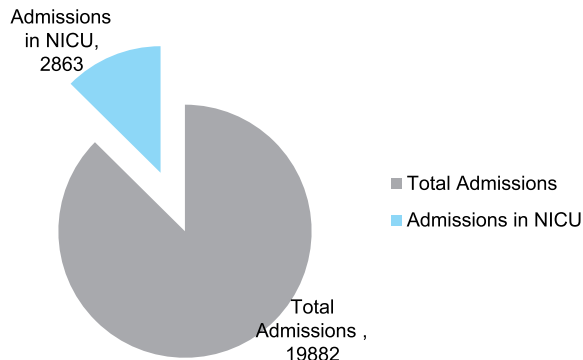


Figure-1. Chart showing total admissions in paediatric unit PMCH and admissions in NICU.

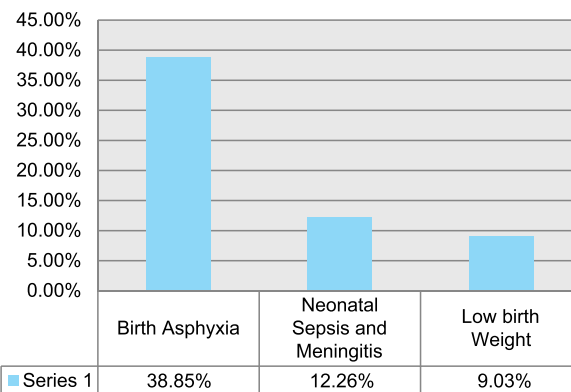


Figure-5. Diseases with highest mortality

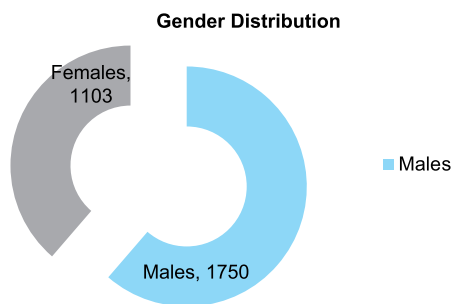


Figure-2. Gender distribution of admitted patients.

DISCUSSION

Neonatal mortality is still quite high in developing and underdeveloped countries like Pakistan, risk factors for high mortality rate are variable but mostly preventable. In our study the number of total admissions in nursery was 2863 out of 19882 total admissions in paed ward. Our study shows male predominance in admissions (61.9%), which is comparable to national as well as international

data^{7,8,9,10and11} this male predominance has been seen in many studies, and according to these studies this could be either due to cultural preference of seeking medical care for male baby or may be male fetus's susceptibility to infections.^{7,12,13}

In our study Prematurity, neonatal sepsis/ meningitis and birth asphyxia were the most common reasons for seeking admissions; this pattern is comparable to other developing countries as well.^{14,15,and16}

The over all mortality in this study was 21.93% which is quite similar to studies done at Yemen^{7,17}, Pakistan¹⁰ and Nigeria.¹³ But if we compare this mortality rate to other studies from Oman, Burkina Faso and Nigeria^{18,19,20} then our study shows some what higher mortality rate. The highest mortality seen in Birth Asphyxia 244(38.85%), neonatal sepsis and meningitis 77 (12.26%), and V.L.B.W (9.03%). birth asphyxia was the top most cause of mortality in our set up and remains an important cause of neonatal mortality and morbidity world-wide specially in developing and underdeveloped countries, this finding was also seen in study by Seyal et al²¹ and by Tasneem¹⁰ and another study from Nigeria shows that the main cause of admissions in NICU was birth asphyxia.²⁰

The second most common cause for admissions and mortality in our study was neonatal sepsis and meningitis and this is similar to other local and foreign studies.^{22,11,14} These findings could point towards the lack of hygiene during deliveries and lack of skilled staff that attend births in developing and underdeveloped countries. It was observed in a study that babies born at home were more likely to present with birth asphyxia and sepsis.^{13,23,24}

Prematurity is a major risk factor both for admissions and mortality as it is in many developing countries^{16,21,23,24}, in our set up the prematurity was leading cause of admissions and contributed in mortality too, this finding is also seen in study done at Nigeria.²⁴

CONCLUSION

Data from our hospital showed that the main

reasons for seeking admissions in neonatal period was prematurity, neonatal sepsis/meningitis and birth asphyxia. There could be other independent risk factors like babies born in hospital or at home, maternal health during pregnancy but this is the limitation of this study. The major causes of neonatal morbidity and mortality can all be prevented through effective antenatal care, births that are conducted by trained birth attendants, early and proper referral of sick newborns.



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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Juveriya Shah	Conceived designed, Manuscript editing, Final approval.	
2	Ali Akbar Siyal	Introduction, Statistical analysis, Discussion.	
3	Tabinda Taqi	Literature search and review, Bibliography.	