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Clinical profile and outcome of neonates admitted to the Neonatal Intensive Care Unit (NICU) at BPKIHS: A need for advanced neonatal care

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Background: One of the Millennium Development Goals is to reduce childhood mortality by two-thirds by 2015 (www.un.org/millenniumgoals). This study was conducted to identify the clinical profile and pattern of disease, and to find out the commonest cause of mortality and morbidity of neonatal ICU patients in a Nepali teaching hospital.

Methods: A retrospective study was conducted at a grade IIIA NICU in the Neonatal Intensive Care Unit of a tertiary care teaching hospital in the eastern part of Nepal to identify the clinical profile, pattern of disease, and outcome of patients. The data of all neonates were analyzed retrospectively from January 2012 to December 2012. IRB approval was exempted.

Results: A total of 361 neonates were admitted in NICU during the study period, 65.6% were male and 34.4% were female. Of these neonates, 86 (23.8%) were admitted with a diagnosis of prematurity and 73 (20.2%) were admitted with a diagnosis of birth asphyxia. One of the commonest causes for birth asphyxia is the meconium aspiration syndrome. Among the neonates with birth asphyxia, 40 (54.8%) were in hypoxic ischemic encephalopathy (HIE) III, 20 (27.4%) in HIE II, and 13 (17.8%) in HIE I. The common causes for admission in NICU were sepsis (n= 118, 32.6%), prematurity (n = 86, 23.8%), and birth asphyxia (n = 73, 20.2%). The overall mortality was 20.2%. Among the ventilated cases, the mortality was 36.1%. In the non-ventilated cases, it was 13.25%. If two-thirds of the cases requiring ventilation would have survived thanks to a different treatment approach, we could have reduced our overall mortality to 15.7%.

Conclusions: The neonatal phase is a very vulnerable period with a high risk of mortality and morbidity,

most of which are preventable with good obstetric and subsequent neonatal care¹⁻². Most of the NICU patients under mechanical ventilation may need advanced ventilation to reduce mortality further. There is a need for timely referral to a tertiary care hospital from peripheral and non-tertiary set-ups to prevent and control neonatal mortality and morbidity.

The mortality rate can be reduced by giving advanced care such as extracorporeal membrane oxygenation (ECMO) to patients who fail to improve from conventional mechanical ventilation.³

Keywords: neonatal, mortality, low birth weight, sepsis, premature, asphyxia

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