

Neonates of a tertiary NICU with their disease pattern and predictors of mortality: A retrospective study

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Abstract

Background: Neonatal mortality rate is one of the key outcome indicators in the health status of a nation, and directly reflects prenatal, intra-partum, and neonatal care.

Aim of this study: To document the disease pattern and to find out the predictors of neonatal mortality admitted at NICU.

Methods: This retrospective study was conducted in the Department of Neonatology, Bangladesh Shishu Hospital & Institute (BSH&I), Sher-E-Bangla Nagar, Dhaka, from January 2022 to June 2022. Data were retrieved from file records of the patients regarding age, gender, working diagnosis, type of treatment, length of stay and outcome in the NICU.

Results: 263 study population were analyzed and divided into two groups according to hospital outcome. 116(44.11%) neonates were in survival group and 147(55.89%) neonates were in non-survival group. Male predominance (78%) and median age of admitted patients was 5 days. The most common reason for admissions were perinatal asphyxia with neurologic problems (20.5%) and low birth weight (LBW-20.5%) followed by post-resuscitation (20%), respiratory failure (16%) and neonatal sepsis (16%), cardiovascular disorder (5%), gastroenteritis (1.2%) and renal failure (0.8%). Overall, median length of NICU stay 12 days. Length of stay (LOS) of survivors were more than non-survivors [Mean $\pm$ SD= 18 $\pm$ 8 vs. 5 $\pm$ 3, respectively]. A total of 121(46%) required mechanical ventilation support. Non-survivors tended more to require mechanical ventilation 110(90.9%). Over-all, in hospital mortality was 56% (147/263). In this study, univariate logistic regression showed Respiratory failure, PNA with neurologic problems, sepsis, post-resuscitation were higher in non-survivors than survivors as independent predictor of mortality. Multivariate logistic regression showed respiratory failure was the overall predictor of neonatal mortality admitted at NICU.

Conclusion: The most common reason for NICU admission were perinatal asphyxia with neurologic problems and low birth weight. Non-survivors tended more to require mechanical ventilation support. Respiratory failure was the predictor of neonatal mortality admitted at NICU.

Keywords: Neonatal Intensive Care Unit (NICU), disease pattern, mortality.

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