

Neonatal intensive care unit; Bangladesh perspective

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Bangladesh has a very good health infrastructure & has done lots of improvement in health sector. Our infant mortality rate has decreased significantly. A decade ago it was 77/1000 live birth now it is 52/1000 live birth¹. But to reach the Millennium development goal we have to reduce it more. In spite of breakthrough improvement in health sector we are staying behind in managing our newborn adequately in comparison to other neighboring countries. Neonatal death in our country is 37/1000 live birth, which is quite high & is one of the main obstacle in achieving MDG 4 target.²

Prematurity & low birth weight is a major problem in our country. These babies need special care & management for better outcome.

A Neonatal Intensive Care Unit (NICU)—also called a Special Care Nursery, newborn intensive care unit, intensive care nursery (ICN), and special care baby unit (SCBU)—is an intensive care unit specializing in the care of ill or premature newborn infants.³

Before the industrial revolution, premature and ill infants were born and cared for at home and either lived or died without medical intervention. In the mid-nineteenth century, the infant incubator was first developed, based on the incubators used for chicken eggs. Dr. Stephane Tarnier is generally considered to be the father of the incubator, having developed it to attempt to keep premature infants warm.⁴

NICUs now concentrate on treating very small, premature, or congenitally ill babies. Some of these babies are from higher-order multiple births, but most are still single babies born too early.⁵

Besides prematurity and extreme low birth weight, common diseases cared for in a NICU include perinatal asphyxia, major birth defects, sepsis, neonatal jaundice, and respiratory distress syndrome due to immaturity of the lungs.

Complications of extreme prematurity may include intracranial hemorrhage, chronic bronchopulmonary dysplasia or retinopathy of prematurity are also taken care in NICU. An infant may spend a

day of observation in a NICU or may spend many days there. Overall survival rates, for all gestational ages lumped together, are roughly 70%.

Neonatology and NICUs have greatly increased the survival of very low birth weight and extremely premature infants. In the era before NICUs, infants of birth weight less than 1400 grams rarely survived. Today, infants of 750 grams have a fair chance of survival.⁷

Three levels of care are given in NICU.⁶

Level 1- Basic neonatal care. Care is given to the babies whose gestational age less than 34 weeks & having weight 1800 grams or more. Resuscitation, phototherapy, intravenous access, oxygen therapy & monitoring are done.

Level 2 – Special care newborn nursery. Care given to babies having gestational age 32 weeks or more or birth weight 1500 grams or more. Resuscitation, IV access, Phototherapy & Exchange transfusion. Mechanical ventilation for brief durations (less than 24h) or continuous positive airway pressure. Intravenous infusion, total parenteral nutrition, and possibly the use of umbilical central lines and percutaneous intravenous central lines. X-ray & laboratory facilities are available.

Level 3- Intensive neonatal care. Care of infants of all gestational ages and weights; Mechanical ventilation support, and possibly inhaled nitric oxide, for as long as required. Immediate access to the full range of subspecialty consultants. Extracorporeal membrane oxygenation, hemofiltration and hemodialysis, or surgical repair of serious congenital malformations. X-ray, CT scan, Echo, EEG, ROP screening, Special laboratory facilities are available in level 3.

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As per statistics for each one million population thirty(30) Level 3 NICU bed are required. If we consider our population 15 crore, we need about 450 Level 3 NICU bed. But in true sense we have hardly 30 - 50 level 3 NICU bed in our country. Even in tertiary level government hospital we are lacking level 3 NICU bed. In some private institution at Dhaka, Chittagong & in other divisional city there are some NICU level 3 facilities but they are beyond reach of general population. Now a days because of induced pregnancy facility birth of twin , triplets are more in our country like in other country & most of these babies need very special care but unfortunately we are not in a position to provide them that quality of management. Because of inadequate facilities our perinatal morbidity & mortality are very high & unacceptable. This is the high time to give emphasis on this issue so that we can provide special management to the babies when they need & can meet the MDG 4 goal target. We have specialist on the subject but because of inadequate facility they can not provide better management to these unfortunate small sick babies.

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