

Neonatology In Singapore: The Way We Were, The Way Forward[†]

N K HO,**FAMS, M Med (Paeds), FRACP*

Abstract

Singapore has a maternity hospital since 1924, but for many decades the newborns could only receive basic care. Neonatal and perinatal mortality rates were high. Marked improvement in neonatal care began from the 1980s when many neonatal departments were set up to provide intensive care. Improved socioeconomic status, better healthcare facilities, effective infection control, immunisation programmes and availability of potent antibiotics contributed to the decline of perinatal and neonatal mortality. Following the implementation of the glucose-6-phosphate dehydrogenase (G6PD) deficiency screening programme, severe neonatal jaundice and kernicterus were largely reduced. Exchange blood transfusions initiated in the 1960s and phototherapy in the 1970s had saved many babies. Kernicterus is almost not seen now. With more neonatal-trained staff, organised resuscitation teams, advances in respiratory management and better monitoring equipment, more babies have survived. Closer cooperation between obstetricians and neonatologists was a great leap forward towards perinatal medicine. Physicians should endeavour to reduce the incidence and prevalence of birth defects and metabolic errors. Perinatal asphyxia should be promptly detected and managed effectively, including neuroprotective strategies. There should be markers to predict the outcome of asphyxiated babies for decision-making. Neonatologists should be mindful of safe introduction of new technologies and rapid diagnostic techniques for infections, including group B streptococcal screening and chemoprophylaxis when required. Other current issues include prevention of major morbidities, preservation of brain function, improved neurodevelopmental outcome of premature babies, use of blood substitutes, optimal nutrition, fetal surgery, evidence-based medicine, better information systems, avoidance of medication errors, adequate sedation and pain relief of the baby, and the use of nitric oxide. One should bear in mind the need to enhance the neonatal intensive care environment, improve non-invasive monitoring and minimise invasive procedures. Physicians should prioritise neonatal care for their country and utilise less costly neonatal care. Ethical issues in neonatology that arise following advancement in neonatal care deserve attention. Advances in life sciences, such as the completion of the human genome project, cloning of tissues and organs, human stem cell research and technology, gene therapy, deoxyribonucleic acid vaccines and nanomedicine, should benefit neonatology.

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* Consultant Paediatrician, Private Practice

Former Chairman, Division of Paediatric Medicine

Former Associate Dean, K K Women's and Children's Hospital, Singapore

Address for Correspondence: Dr Ho Nai Kiong, 290 Orchard Road, #07-02 The Paragon, Singapore 238859.

E-mail: honk@pacific.net.sg

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