

## DEVELOPMENTAL CARE AND KANGAROO MOTHER CARE

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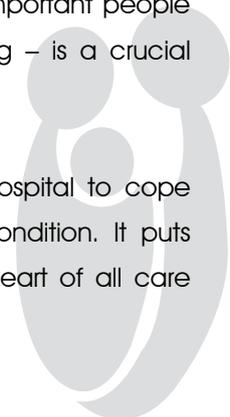
Advances in technology and medicine have led to an increasing survival of premature infants and low birth weight infants. However, saving the lives of these babies is not enough; more and more attention is now, being given to the long-term outcomes and to the associated quality of life for these babies and their families.

Preterm infants have significantly more developmental impairment than their term counterparts. The brain of preterm infants is still immature and rapidly developing in the neonatal period. However, neonates in the intensive care environment are exposed to an abnormal environmental milieu, repeated invasive procedures and prolonged illness. This intense sensory impact adversely affects maturation and organisation of vision, hearing, sleeping pattern, growth and consequently neuro-development and long-term outcomes of the child. For parents of preterm infants, the neonatal experience exposes them to a multitude of stressors and negative emotions, such as anxiety, guilt, helplessness and depression. The highly technical environment, as well as the appearance and behaviours of the premature infant frequently lead to disruptions in assuming the parental role and a diminished quality of parent-infant interactions. These early problems may contribute to prolonged difficulties with parenting and place premature infants at risk for further cognitive, emotional, behavioural, and developmental problems.

Developmental care is a broad category of interventions designed to minimise the stress of the neonatal environment and to support the behavioural organisation of each individual infant. Interventions are designed to enhance physiological stability, protect sleep rhythms and promote growth and maturation. These may include handling and positioning measures, the reduction of harmful stimuli (such as noise and light), the clustering of nursery care activities, and cue-based care. It includes specific supportive behavioural techniques such as kangaroo care and non-nutritive sucking. A key element of developmental care is the recognition of the need for individualised care for each baby. The education and involvement of parents – acknowledging that they are the most important people in the infant's life and critical to the infant's emotional, social and physical wellbeing – is a crucial part of family-centred developmental care.

Family centred care is a philosophy of care that helps families whose baby is in hospital to cope with the stress, anxiety and altered parenting roles that accompany their baby's condition. It puts the physical, psychological and social needs of both baby and their family at the heart of all care given.

Practical Aspects



- At birth, parents are given the opportunity to hold/touch the babies even if ventilated.
- Sound and Hearing - Babies are nursed in an environment where average background noise levels are 45 decibels or less with peaks not exceeding 65 decibels. The baby has opportunities for exposure to the mother's (parents') voice.
- Light and vision - Lighting levels in NICU are adjustable to ensure shade for babies and safe working conditions for staff. Babies are not nursed in direct sunlight. After 37 weeks Babies are provided with visual experience appropriate for newborn development.
- Smell and taste - Exposure of babies to noxious odours and tastes is minimised. The infant has opportunities to become familiar with his/her parents' odour. The infant has opportunities for pleasant taste experience.
- Positioning - The baby is supported in positions that protect postural development, facilitate flexed posture, and smooth self regulatory movements
- Touch - The infant receives gentle soothing touch. Exposure to painful, negative touch stimulation is minimised. Skin-to-skin, (Kangaroo care) is encouraged as conditionally appropriate and physiologically tolerated.
- Sleep - Babies are nursed in an environment that promotes restful sleep.
- Parent education - All parents/carers are actively encouraged to participate in management of the sensory environment.
- Staff education - All members of the Multi disciplinary team will have up to date evidence based knowledge of the impact of the nursery environment on babies, parents and staff.

Skin to Skin contact and Kangaroo care form a major part of the developmental care. Parents are encouraged to cuddle or at least touch the infants soon after birth even if the infant is being ventilated. In the intensive care units, parents spend time with sick infants practicing 'positive touch' or comfort holding. This helps in stabilizing respiratory patterns, and oxygen saturation; reduced apnoea and bradycardia; increased rate of weight gain and enhanced lactation; and functioning as an analgesic during painful procedures. Once the infant is stable, the parents are able to use Kangaroo care. These measures promote infant-parent bonding, improve thermal regulation and help calm infants and enhance breastmilk production.

Some people believe that kangaroo mother care is only for low resource settings. However it is being increasingly used in western countries with improved outcomes and added benefits of reduced hospital stay and lower costs. Likewise, developmental care is not limited to western countries. Simple, low cost measures can easily be used in low resource settings with good outcomes.

Conclusions

Early intervention strategies are critical to ameliorating the negative effects of prematurity on parenting, mother-infant interactions, and child outcomes. Developmental care has been proposed as an effective means of reducing the stress of neonatal intensive care and promoting infant stability and there is an increasing body of evidence to support its uptake in preterm infants in the neonatal environment. Specific strategies may also have important benefits for parents and providers of neonatal care. These primarily relate to reduced parental stress, enhanced parenting and reduced length of hospital stay and associated costs. In view of the significant benefits to preterm infants and care providers, an essential initiative must now be to develop and foster a supportive developmental care culture by pursuing effective training strategies, and developing standardized guidelines throughout the neonatal care continuum.

