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Short Communication
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Impact of Neonatal Intensive Care Units on Neurodevelopmental Outcomes of Infants

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Short Communication

The Neonatal Integrative Developmental Care Model identifies seven distinct core measures that provide clinical guidance for neonatal intensive care units staff in delivering neuro-protective family-centred developmental care to preterm infants and their families in the neonatal intensive care units. Each core measure has a standard with a policy or protocol that guides care of the infant as it relates to that specific core measure [1]. Corresponding infant characteristics, which are measurable reflections of the desired core measure outcomes, are identified, and specific goals target the improvements desired. Clinical applications include neuro-protective Interventions that define and specify the actions required to meet the goals. These must be evidence-based, reliably applied and scientifically valid [2]. To effectively implement many neuro-protective interventions, a cultural shift within the neonatal intensive care units must occur in order to adopt new evidence-based practices. Changes in care practices are usually not easy and success is dependent on introducing change in a systematic fashion. Quality improvement methods such Plan have proven effective in initiating and sustaining changes that can result in improved outcomes. One such program is the Wee Care Neuro-protective care program [3]. The Wee Care neuro-protective neonatal intensive care units Program is a multiday multidisciplinary structured program in neuro-protective family-centred developmental care, which provides eLearning, didactic education, hands-on interactive workshops, physician sessions, and in-unit consultation to all individuals who care for premature infants in a neonatal intensive care unit [4]. This training and consultative program is an evidence-based quality improvement program designed to optimize the neonatal intensive care units environment and caregiving practices in order to facilitate the best outcomes for premature infants and their families [5]. This unique program combines evidence-based practices with the seven neuro-protective core measures for family-centred developmentally supportive care aimed at standardizing neuro-protective care practices in the neonatal intensive care units. This is achieved and sustained by incorporating transformational change methodology into the training program [6]. The Wee Care Neuro-protective NICU Program, which trains all neonatal intensive care units staff has been shown to improve noise and light levels in the NICU, improve infant medical outcomes, improve staff satisfaction, improve family satisfaction, decrease length of stay, and decrease hospital costs. Skin-to-skin contact is the optimal environment for any new-born, but particularly for the premature infant in the neonatal intensive care units. The defining feature of Skin-to-skin contact is direct contact between parental skin and infant skin, by holding a diaper-clad infant on a parent's bare chest in an upright prone position [7]. Essentially, this is a place of care, the normal environment for new-borns. Skin-to-skin contact provides the right environment for DNA, Epigenes, neural circuits and physiological regulation to function most optimally. A mother and her baby are inextricably linked and to separate the two is highly stressful to both [8]. Incubator care, while necessary if mother is unavailable, is actually abnormal to the developing brain of an infant. Skin-to-skin contact is a fundamental, essential component of neuro-protective and patient-family oriented care for hospitalized preterm infants [9]. Being skin to skin with mother protects the new born from the well-documented negative effects of separation, supports optimal brain development and facilitates attachment, which promotes the infant's self-regulation over time. Skin-to-skin contact became codified through the World Health Organization into what is called kangaroo mother care, a full-care strategy [10].

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Conflict of Interest

None

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