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HIGH-TECHNOLOGY ENVIRONMENT AND INTERMITTENT KC PROCEDURE: LONGITUDINAL RESULTS ON PSYCHOLOGICAL VARIABLES.

Tallandini M.A. & Genesoni L.

Background: Preterm birth has a negative impact on the child development of cognitive skills (Arpino et al., 2010), particularly on infant's language (Anderson & Doyle, 2003), motor, and socio-emotional development (Forcada-Guex, et al.2011). Developmental psychology and neuroscience literature recognize the direct link between infant development and the infant's very early experiences (Grossmann & Johnson, 2007). For the preterm infants, environmental stimulation plays a major role because of the infant's different biological development compared to the full term infant (Shonkoff, 2010). KC procedure reduces the initial parent-infant separation improving the infant's early environment and providing the infant with experiences similar to the ones of a full-term infant.

Aim : The aim is to evaluate the impact of intermittent KC in NICUs during the infant's first year of life. The domains investigated are preterm infant's cognitive and socio-emotional development.

Method: The KC proposed program was of at least 1 hour a day for at least 14 consecutive days. The sample consists of 90 mother-preterm infant dyads, 33 accepted the full procedure, 23 were in partial KC procedure and a control group of 34 dyads in traditional care. Data was collected at 5 time points: before KC initiation, at discharge from hospital, at 3, 6, and 12 months corrected age (CA).

Results: Mothers who carried out KC full procedure have better interaction with their preterm infant during the first 6 months of life and a better quality of bonding than Control mothers which persisted at 12 months. **KC infants** are more responsive during interaction, have better development of motor and adaptive behavior at 6 months, and better language skills at 12 months than the control group. Regression analysis indicated that KC was the only significant contributor for language development at 12 months.

Conclusions: KC was found to: reduce the negative impact of preterm birth on the infants' language development; improve the infant's adaptive behavior when the full procedure was followed; enhance the gross motor development. Moreover, the short and long-term positive effects on maternal interactive capacity were confirmed. The KC efficacy on language and adaptive behavior are novel findings.