

# Early Kangaroo Mother Care in Preterm Infants: Is it Safe?

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## Aims

Kangaroo mother care (KMC) was first described in 1978 by Dr. Edgar Rey Sanabria as an alternative to the incubator in low-resource countries. Over time this practice has been extended to high income countries because it is effective in improving infant growth and neurodevelopment, especially in preterm infants. However, KMC is frequently feared by health care professionals, particularly nurses who are in charge to support infants and parents during the procedure. The aim of this study is to demonstrate the safety of early KMC in preterm infants.

## Methods

A prospective observational monocentric study was performed. Infants born between June 2018 and June 2020, with gestational age <33 weeks and birth weight <2000 grams were monitored while having KMC during the first three weeks of life. Infants with necrotizing enterocolitis, sepsis, congenital malformations, receiving mechanical ventilation or with more than five apneic episodes in the hour prior to KMC were excluded. Continuous oxygen saturation (SaO<sub>2</sub>), heart rate (HR) and respiratory rate (RR) as well as body temperature were registered during KMC, and in the hour prior to KMC. The minimum duration of the KMC session was 90 minutes. Information regarding post conceptional age, weight, respiratory support, presence of central venous catheter and onset of sepsis within 72 hours after the procedure was collected. Two physicians, blinded to patient conditions and period of analysis (before or during KMC) evaluated desaturation episodes (SaO<sub>2</sub> <85%, >15 seconds), bradycardia (HR <100, >15 seconds), and apnea (pause in breathing > 20 seconds associated with desaturation or/and bradycardia). Wilcoxon signed-rank test was used for statistical analysis. The study was approved by the Local Ethics Committee.

## Results

We analyzed 83 episodes of KMC for a total of 38 infants. Mean gestational age at birth was 29 weeks (range 23-33 weeks). Mean post conceptional age, days of life and weight at KMC were 31 weeks (range 25-34 weeks), 10 days (range 1-20 days) and 1131 grams (631-2206) respectively. Seventy-seven percent of patients were on respiratory support and 47% of patients had a central venous catheter (umbilical catheter or peripherally inserted central catheter) during KMC. Total duration of desaturation, total duration of bradycardia, number of apnea episodes and body temperature were not statistically different during KMC episode and the hour prior to KMC. No adverse events related to catheters were reported. One session was followed by sepsis.

## Conclusion

KMC plays a key role in the care of the preterm infants, and deserves to be increasingly offered to infants and to their families. The results of this study should reassure health care professionals, highlighting the safety of the procedure in preterm infants and the possibility to perform KMC in an intensive care setting in the first weeks of life.

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