Indian Academy of Pediatrics (IAP)

nRICH

Newer **R**esearch and recommendations **I**n **C**hild **H**ealth

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UNDER THE AUSPICES OF THE IAP ACTION PLAN 2023

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Dear fellow IAPans,

nRICH

Newer **R**esearch and recommendations **I**n **C**hild **H**ealth-aims to bring you the abstracts of some of the breakthrough developments in pediatrics, carefully selected from reputed journals published worldwide.

Expert commentaries will evaluate the importance and relevance of the article and discuss its application in Indian settings. nRICH will cover all the different subspecialities of pediatrics from neonatology, gastroenterology, hematology, adolescent medicine, allergy and immunology, to urology, neurology,vaccinology etc. Each issue will begin with a concise abstract and will represent the main points and ideas found in the originals. It will then be followed by the thoughtful and erudite commentary of Indian experts from various subspecialties who will give an insight on way to read and analyze these articles.

I'm sure students, practitioners and all those interested in knowing about the latest research and recommendations in child health will be immensely benefitted by this endeavor which will be published online on every Monday.

Happy reading!

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Effect of Kangaroo Mother Care on Duration of Phototherapy on Neonatal Jaundice: A Randomized Controlled Trial

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BASED ON ARTICLE

Jajoo M, Dhigra D, Chandil A, Jain R, Indian J Pediatr. 2022 May;89(5):507-509. doi: 10.1007/s12098-021-04013-y

ABSTRACT

Background: Kangaroo care [KC], skin-to-skin contact between mother (or any other caregiver) and infant provides a positive impact on the physical growth of the infant, increases attachment between the mother and baby, and enhances milk production. Increased and better feeding by the baby may result in better efficacy of phototherapy.

Population: All neonates admitted in NICU with gestational age 30–40 week and weight 1001–1999 g requiring phototherapy as per standard guidelines. Those with jaundice in the first 24 hours, those requiring exchange or those with rapidly rising bilirubin were excluded.

Intervention group: Infants receiving phototherapy were interrupted for 1 hour of KC every 8 hours. Mother wearing kangaroo gown was seated on a chair provided goggles and the baby with only diaper was placed between her breasts with the help of a nurse and the phototherapy panel was held against the back of the baby in a shielded area with room temperature maintained at 27 to 29 0C

Control group: Phototherapy 24 hours a day, with led @irradiance between 30 to 40 uW/cm2/nm.

Outcome: Duration of phototherapy. Phototherapy was stopped if TSB was below the threshold and the infant was withdrawn from study if exchange transfusion was needed or if baby become hemodynamically unstable.

Results: In this trail which enrolled 50 infants, the duration of phototherapy was significantly lower in the 'KMC with phototherapy arm' than the control arm. (39.12 ± 15.3 and 19.44 ± 6.54 h)

Conclusions: This study suggests that KMC should be routinely and safely given to stable infants with weight more than 1000 g and ga more than 30 wk along with phototherapy.

SUMMARY

Neonatal jaundice is the commonest reason for admission of a newborn to the neonatal unit. When total serum bilirubin exceeds the recommended threshold phototherapy is the standard treatment offered for newborns with jaundice. In the current era with better phototherapy units (LED with irradiation 30 to 40 microw/cm2/nm and spectrum between 450 to 460nm) the duration of phototherapy has significantly reduced (on an average of 24 to 48 hours). However phototherapy is likely to affect the mother infant bonding, cause anxiety and stress to the mother, separate the mother from the baby, reduce feeding time, interfere with breastfeeding and also could affect the success of exclusive breastfeeding in the immediate and long term.

Kangaroo care is the one of the proven methods to improve breastfeeding rates, improve mother infant bonding and also reduce maternal stress. Combining Kangaroo care with phototherapy is likely to nullify the adverse effects of phototherapy.

The authors in this study support Kangaroo care for babies receiving phototherapy as this resulted in lesser duration of phototherapy. The reasons for lesser duration of phototherapy was hypothesised as better feeding rates and increased passage of meconium and lesser entero hepatic circulation. The authors however did not evaluate the feeding pattern, the stool pattern, the exact hours of kangaroo and its effects on breastfeeding immediate or long term. The small sample size and short follow up are inadequate to answer many questions related to the use of Kangaroo care with phototherapy.

KC is simple, effective, low cost evidence based, multi-sensory, therapeutic intervention. Its utility for care of low birth weight, preterm infants, and procedural pain, stabilization of sick newborn and for neonatal transport is well known. To this long list, KC during phototherapy is another indication. Several factors influence the efficacy of phototherapy – the irradiance, wavelength, distance, exposed surface area and the underlying cause of jaundice. To these influencing factors, KC is another addition.

Considering the positive benefits of kangaroo care, a larger and a longer study is needed to study the effect of kangaroo care in term and late preterm infants receiving phototherapy on breastfeeding rates, maternal stress and other long term outcomes. Meanwhile there is no harm in providing skin to skin contact to all newborns needing phototherapy