

Kangaroo Care Practice during COVID-19 Pandemic in a Newborn Intensive Care Unit of a Middle-Income Country

Charafeddine L¹, Masri S¹, Maalouf F¹, Abi Farraj F², Haidar M³, Hamoud S³, Chemali Z³

¹ Department of Pediatrics and Adolescent Medicine, American University of Beirut Medical Center, Beirut, Lebanon

² Medical Student at the Faculty of Medicine, American University of Beirut Medical Center, Beirut, Lebanon

³ Nursing Services, American University of Beirut Medical Center, Beirut, Lebanon

DOI: 10.14434/do.v14i1.31810

Aims

Kangaroo mother care (KMC), the practice of skin to skin contact provided to preterm infants in addition to breastfeeding, supports parents and leads to earlier discharge from the hospital.¹ KMC is recommended for all clinically stable infants in the Newborn Intensive Care Unit (NICU) having been shown to improve infants' physiological stability, weight gain, mother-infant bonding, exclusive breastfeeding rates and newborn survival).²⁻⁵ In many NICUs, the COVID-19 pandemic has potentially jeopardized the practice of KMC where restricted visitation policies were adopted. Nevertheless, the American Academy of Pediatrics and World Health Organization (WHO) continue to recommend KMC and breastfeeding during this pandemic while taking appropriate precautions.^{6,7} The aim of the present study is to report the consequences of COVID-19 related visitation restrictions on the practice of KMC for infants ≤ 34 weeks during implementation of a quality improvement (QI) project promoting KMC in a NICU of a middle-income country.

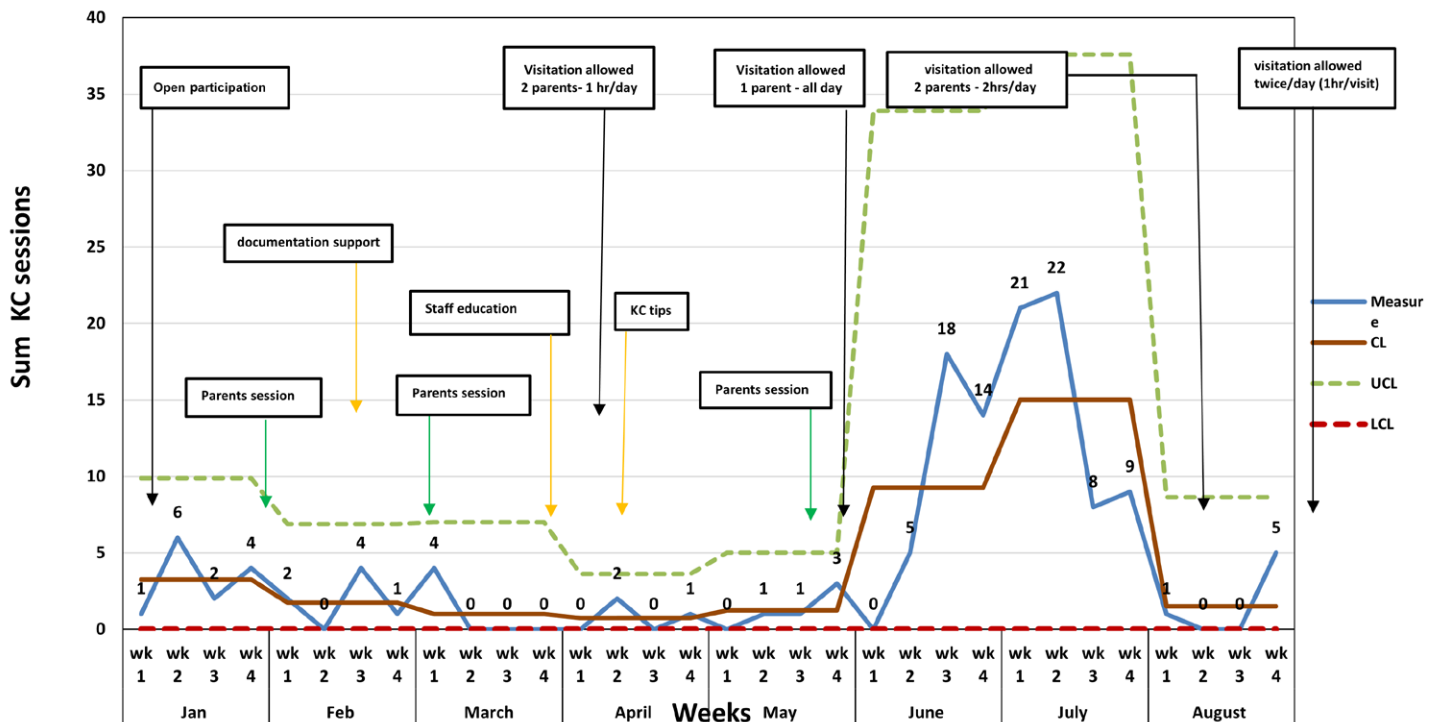
Methods

The QI, followed the Plan-Do-Study-Act (PDSA) methodology, and was initiated in October 2018 in a level IV NICU. The multidisciplinary QI team consisting of four NICU nurses, a neonatologist and a developmental care coordinator led the KMC implementation project. To increase awareness of KMC benefits among staff and parents, the team used an Arabic translation of the March of Dimes "Close to Me" education materials.⁸ The team held parent and staff education sessions, supported NICU nurses and parents in the practice of KMC, and posted KMC related tips in each NICU room. Documentation on KMC was noted to be deficient, which was targeted in one of the interventions.

The KMC practice was observed from January 2020 to August 2020. COVID-19 related participation restrictions were observed from April to August according to the hospital directions. The restrictions varied over time starting in March. At times, restrictions included prohibiting skin to skin and direct breastfeeding. During visits, each KMC session was considered as one occurrence per infant. Restrictions, variations and interventions over time are listed in the control chart. (Fig.1).

FIGURE 1. Control Chart

Sum of Kangaroo Care sessions for all infants per week



Results

The mean number of KMC sessions for infants ≤ 34 weeks was 2.5 sessions per month prior to visitation restrictions. After staff education, parent support sessions and later staff documentation, and after removing the restriction (June–July) the average sum of KMC increased to eight sessions per month.

Conclusion

Despite the participation restrictions, the KMC rate increased with time mainly due to parents' determination to visit their infants and spend this time more efficiently. The interventions performed by the KMC QI team seemed to improve the rates of KMC at our institution especially during the adverse times relating to the COVID-19 pandemic.

Lessons Learned

Many inevitable measures affected this QI process namely the variation in the restriction measures and scarcity of nurses' documentation. These are two main challenges that need to be addressed in the next PDSA cycle.

References

1. World Health Organization, Dept. of Reproductive Health and Research. Kangaroo mother care: a practical guide. ISBN: 9241590351, WHO reference number: WS 410 2003KA. https://www.who.int/maternal_child_adolescent/documents/9241590351/en/
2. Campbell-Yeo M, Disher T, Benoit B, Johnston C. Understanding kangaroo care and its benefits to preterm infants. *Pediatric Health Med Ther.* 2015;6:15-32. doi: 10.2147/PHMT.S51869
3. Mazumder S, Taneja S, Dube B, Bhatia K, Ghosh R, Shekhar M, et al. Effect of community- initiated kangaroo mother care on survival of infants with low birthweight: a randomised controlled trial. *Lancet.* 2019; 394(10210):1724-1736. DOI: 10.1016/S0140-6736(19)32223-8
4. Manazir Ali S, Sharma J, Sharma R, Alam S. Kangaroo mother care as compared to conventional care for low birth weight babies. *Dicle Medical Journal/Dicle Tip Dergisi.* 2009; 36(3):155-160.
5. Conde-Agudelo, A., J.M. Belizán, and J. Diaz-Rossello. *Cochrane Review: Kangaroo mother care to reduce morbidity and mortality in low birthweight infants.* Evidence-Based Child Health: A Cochrane Review Journal, 2012. 7(2): p. 760-876. <https://doi.org/10.1002/ebch.1837>
6. FAQs: Management of Infants Born to Mothers with Suspected or Confirmed COVID-19 [Internet]. Services.aap.org, 2020 [cited 15 July 2020]. Available from: <https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/faqs-management-of-infants-born-to-covid-19-mothers>
7. Q&A: breastfeeding and COVID-19 [Internet]. Who.int. 2020 [cited 15 July 2020]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-on-covid-19-and-breastfeeding>
8. Cooper, L., et al., Close to me: enhancing kangaroo care practice for NICU staff and parents. *Advances in Neonatal Care.* 2014. 14(6): p. 410-423. DOI: 10.1097/ANC.0000000000000144

The Gold Standard for Excellence in Newborn Individualized Developmental Care

What All Newborn Infants and Their Families Deserve

Newborn Individualized Developmental Care and Assessment Program (NIDCAP)

The Newborn Individualized Developmental Care and Assessment Program (NIDCAP), originated in 1984 by Heidelise Als, PhD, is the only comprehensive, family centered, evidence-based approach to newborn developmental care. NIDCAP focuses on adapting the newborn intensive care nursery to the unique neurodevelopmental strengths and goals of each newborn cared for in this medical setting. These adaptations encompass the physical environment and its components, as well as, the care and treatment provided for the infant and his or her family, their life-long nurturers and supporters.

Assessment of Preterm Infants' Behavior (APIB)

The Assessment of Preterm Infants' Behavior (APIB) (Als et al., 1982) is a comprehensive and systematic research based neurobehavioral approach for the assessment of preterm and fullterm newborns. The APIB provides an invaluable diagnostic resource for the advanced level clinician in support of developmental care provision in a nursery.

NIDCAP Nursery Program

The NIDCAP Nursery Program provides a comprehensive resource for the self- evaluation by a nursery system of its strengths and goals for integration of NIDCAP principles into all aspects of their functioning. Highly attuned implementation of NIDCAP care for infants and their families, as well as for the staff, in a developmentally supportive environment is a goal as well as a process. External review and validation by the NFI may be sought when a nursery feels it has achieved this distinction. Nurseries that have achieved NIDCAP Nursery certification serve as a model and an inspiration to others. For information on the nursery self-assessment resources as well as the certification process and its eligibility requirements, please see: www.nidcap.org; and/or contact Rodd E. Hedlund, MEd, NIDCAP Nursery Program Director at: nidcapnurserydirector@nidcap.org or 785-841-5440.