

# Current practice of Kangaroo Mother Care: Facility-based observations and perceptions of home-based care in Uganda.

Heather Cooper<sup>1</sup>, BSN; Melissa Morgan<sup>2,3</sup>, MD, MSc; Joy Lawn<sup>2</sup>, MBBS, MPH, PhD

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



<sup>1</sup> Faculty of Public Health & Policy, London School of Hygiene & Tropical Medicine, London, UK

<sup>2</sup> Faculty of Epidemiology & Population Health, London School of Hygiene & Tropical Medicine, London, UK

<sup>3</sup> Department of Pediatrics, University of California San Francisco, San Francisco, USA

## Background

- KMC was introduced in Uganda in 2001<sup>1</sup>, but scale-up has been limited.
- Detailed data to describe KMC practice is lacking, particularly in low-income countries of sub-Saharan Africa.<sup>2,3</sup>
- It is unknown how facility-based practice compares to World Health Organisation (WHO) recommendations.
- This lack of data is a “major impediment to [KMC] program tracking and accountability.”<sup>4</sup>
- Understanding KMC practice will have important implications for programme sustainability.

## Aims

1. To determine the duration and practice of KMC among clinically stable infants weighing  $\leq 2000$  grams in the first week of life after birth at Jinja Hospital.
2. To document the practices and perceptions of mothers providing home-based KMC after facility discharge.

## Study Site

- Jinja Regional Referral Hospital is a referral facility in eastern Uganda.
- Serves catchment area of 4 million – approximately 6,600 deliveries per year.<sup>5</sup>
- 60-70 preterm ( $<37$  weeks) infants admitted each month.
- KMC is employed for infants deemed clinically stable by newborn unit staff.
- Neonatal follow-up clinic occurs weekly for discharged preterm infants.

## Methods

- **Aim 1:** KMC practices were observed and systematically documented among a convenience sample of 12 mother-infant pairs at Jinja Hospital.
  - Participants were observed 24 hours/day. For every skin-to-skin (STS) session, the following were recorded: duration (hours), provider, infant positioning, and infant clothing.
  - The daily duration of STS contact among participants was compared to WHO recommendations, which suggest infants in low-resource settings receive  $\geq 20$  hours of STS contact per day.<sup>6,7</sup>
- **Aim 2:** The practices and perceptions of a purposive sample of 10 mothers providing home-based KMC after facility discharge were documented through semi-structured interviews.
  - Interviews were conducted in Lusoga or English during neonatal follow-up clinic at Jinja Hospital.
  - An interview topic guide was utilised to explore: details of the mother’s KMC education, details of her home practice, fears or difficulties, and beliefs about KMC in her community.
  - Data analysis was conducted using a combination of thematic and framework analysis.

## Results: Aim 1

Table 1. Demographic Characteristics

	Mean (SD)	Range
<b>Mother</b>		
Delivery: vaginal=8, c-section=4		
Age, years (n=12)	24 (5)	16 – 36
Number of antenatal clinic visits (n=10)	3 (1.7)	0 – 6
<b>Infant</b>		
Sex: male=6, female=6		
Birthweight, grams (n=12)	1664 (300)	1100 – 2000
Gestational age, weeks (n=10)	31 (3.0)	26 – 34

## References

<sup>1</sup> Aliganyira et al. *PanAfrican Medical Journal* 2014;19:37. <sup>2</sup> Chan et al. *Journal of Global Health*. 2016;6(1). <sup>3</sup> Boundy et al. *Pediatrics*. 2016;137(1):1-16. <sup>4</sup> Lawn et al. *Reproductive Health* 2015;10(Suppl 1):S5. <sup>5</sup> USAID. Jinja Regional Referral Hospital Profile 2015. <sup>6</sup> WHO. Recommendations on interventions to improve preterm birth outcomes 2015. <sup>7</sup> Conde-Agudelo A & Diaz-Rossello JL. Cochrane Database of Systematic Reviews 2014;(4):CD002771. <sup>8</sup> Seidman et al. *PLoS One* 2015;10(5):e0125643.

## Results: Aim 1

- Total number of STS sessions during the study period was 117, and the mean duration of a single session was 1.9 hours (range 1 – 3.5).
- Mean duration from time of birth to first STS contact in the newborn unit was 21.6 hours (range 5.5 – 44.5).

Table 2. Skin-to-Skin Contact by Day of Life

Day of Life	Mean duration (hours) of STS contact (SD)	Range (hours)	Total STS sessions observed
0 (n=12)	2.0 (2.1)	0 – 6	13
1 (n=12)	4 (2.4)	2 – 9	24
2 (n=11)	2.4 (1.6)	0 – 6	15
3 (n=11)	3.2 (3.0)	0 – 6.5	18
4 (n=10)	3.2 (1.8)	0 – 5.6	19
5 (n=10)	2.9 (2.0)	0 – 6.5	14
6 (n=10)	3.1 (2.5)	0 – 7	14
<b>Week (n=76)</b>	<b>3.0 (2.1)</b>	<b>0 – 9</b>	<b>117</b>

- There was a significant difference between the mean daily duration of STS contact (3.0 hours) study participants received and WHO recommendations.
- No infant received continuous KMC ( $\geq 20$  hours/day). The reason for intermittent care was documented as ‘other’ 75% of the time. “Issues with facility environment,” such as crowdedness and lack of privacy<sup>8</sup>, has been cited as a major barrier to KMC practice and was observed in this study.
- In the first week after birth, intermittent KMC was most often provided by mother (74%), but other family members took part in STS care, especially on the infant’s day of birth.

## Results: Aim 2

- **Demographic characteristics:** Average age of participants interviewed was 25 years (range 16 – 35). Half were first-time mothers; half had other children at home. Three participants reported current employment.
- **KMC education:** All participants learnt about KMC from newborn unit staff, but two learnt only after discharge and during follow-up clinic.
- **KMC home practice:** All participants acknowledged the STS component of KMC. Eight described having to sit in a single position. Time spent practicing STS care varied and was frequently cited as the major barrier.
- **Community perceptions:** All participants reported a lack of knowledge about KMC in the community. Several feared stigmatisation for having a “small baby.”

## Conclusions

- Considering facility- and home-based KMC practices together, this study offers a preliminary, synthesised picture of KMC across the continuum of care in a low-resource setting.
- The reported home practice of KMC parallels data collected on facility-based practice – i.e. intermittent STS care, most often provided by the mother, KMC requires provider to remain seated and in one position.
- Admission to the newborn unit requires the mother and infant to be separated. Early and standardised community-based KMC education may increase early STS care, as other family members may be more willing to participate.
- Stigma adds unnecessary stress on the vulnerable mother-infant dyad, and by not recognising the fatalistic attitude towards premature birth, mortality improvements among this population may be delayed.

## Acknowledgements

This study was supported by the Kangaroo Mother Care Partnership of Save the Children, USA. A special thanks to Dr Harriet Nambuya and Dr Peter Waiswa for providing local support and collaboration; Special Care Unit staff for assistance with data collection; and to Vanessa Akinyange for conducting the interviews at Jinja Hospital.