

KANGAROO MOTHER CARE IN INDIA

OVERVIEW

The Government of India is committed to improving child health by prioritizing newborn care services that increase child survival. In 2014, the Child Health Division of the Ministry of Health and Family Welfare (MOHFW) released the National Guidelines for Kangaroo Mother Care (KMC) and Optimal Feeding of Low Birth Weight Infants in an effort to implement KMC at the facility level. Another document, published in 2014, that included KMC was the India Newborn Action Plan (INAP), which highlights KMC as a specific intervention recommended for small and sick newborns who weigh less than 2000g. One of the priority actions outlined in the INAP for KMC was the establishment of fully functional KMC unit/wards in health facilities that provide neonatal care services. The MOHFW allotted funds to each state for the adaptation of KMC spaces within the special newborn care units (SNCUs).

As more health facilities are expected to provide KMC services, data collection will be critical to monitor quality, identify gaps, and track services. Engagement of healthcare providers and the identification of champions will help foster the ownership of KMC as an effective intervention, speeding up the rate at which KMC services are adopted throughout the country.

Table. I Status of KMC in India by Strategic Area

Domain	Prior to and during 2014	2015–2017
Policy		
National Health Policy	In 2014, KMC was included in the India Newborn Action Plan (INAP) as a specific intervention recommended for reducing morbidity and mortality among small and sick newborns. One of the priority actions outlined in the INAP was the establishment of fully functional sick newborn care units (SNCUs) with attached KMC unit/wards. The KMC coverage targets were set to 35% by 2017, 50% by 2020, 75% by 2025, and 90% by 2030 (MOHFW, 2014).	<ul style="list-style-type: none"> - The National Health Policy of India, 2017 gives highest priority to reducing neonatal deaths in the country. - KMC was initiated as a pilot in a few sites in the country. Preliminary results demonstrated scalability and acceptance. Additionally, the MOHFW piloted an integrated approach to newborn care at the facility level through the Family-Participatory Care (FPC) model, which was taken for scale-up at all district special newborn care units (SNCUs) across India. The FPC model focuses on family as a participant in newborn care, which includes skin-to-skin contact, breastfeeding, and identification of danger signs, all which are components of KMC.
National Guidelines	The “Kangaroo Mother Care and Optimal Feeding of Low Birth Weight Infants” guidelines (MOHFW, 2014) include eligibility criteria for KMC, specifications for infant feeding, infrastructural requirements to establish a KMC ward, an institutionalization plan, monitoring plan, budgetary guidelines, and a communication strategy. Additionally, facility and community guidelines for KMC are included in several other training packages being used to train health personnel on newborn care.	

Country Support/Implementation		
Levels and types of facilities implementing KMC	The GOI aims to establish National, Regional and State Newborn Resource Centres as centers of excellence for newborn care practices including KMC. These centers will provide technical support to SNCUs and Newborn Stabilization Units (NBSUs) to initiate KMC services.	<ul style="list-style-type: none"> - According to the minutes of the KAP 2016 meeting, there were 630 SNCUs in India. The number of SNCUs has since increased to 712. Of these, 265 reported having a KMC unit (GOI, 2017). However, only 15% have the recommended number of eight beds per unit. - In April 2017, GOI created a technical advisory group (TAG) to recommend and support a strategy for scaling up KMC across the country. Two working groups have been constituted, led by the KMC Foundation, Gujarat and PGI Chandigarh, to develop KMC training modules and reporting tools. This work is in progress.
Percentage of LBW newborns initiated on facility-based KMC		There is no mechanism to collect data on KMC parameters at present. Data was submitted to GOI by 18 states, which revealed that KMC was provided to 0–20% SNCU-admitted babies in 12 states and more than 20% SNCU-admitted babies in six states.
Funding		<ul style="list-style-type: none"> - The KMC guidelines of MOHFW contain a section on infrastructural and HR requirements to establish KMC wards. The suggested budget is INR 266100 (\$4,119 USD) for essential items (MOHFW, 2014). Budgetary provisions have been made by GOI in the Annual Health Plans submitted by States to the GOI and states have been informed of the FMR head under which various components for establishing KMC wards can be budgeted. - Donor funding for KMC continues with USAID funds being channeled through Save the Children, John Snow Inc. (JSI), IPE Global, and others. Norwegian funds are being channeled through the Norway India Partnership Initiative (NIPI) for establishing models of FPCs. UNICEF funding is utilized to coordinate efforts for developing KMC training materials and tools. - A budget of Rs 1 lakh (\$1,548 USD) was sent to each district to ensure that KMC units were made an integral part of the SNCUs (Srivastava, 2016).
Research		
Major or program-based studies being conducted related to KMC currently		<p>WHO is conducting a multi-centric study on feasibility of KMC on unstable babies. Two other studies are being conducted with research grants in the State of Haryana by the Society for Applied Studies (SAS) and the Community Empowerment Lab (CEL) in Uttar Pradesh. Studies have been undertaken by the premier research body, the Indian Council of Medical Research (ICMR), on community KMC. Several smaller research studies have been undertaken by the KMC Foundation of India and other Medical Colleges located in the states of Gujarat, Maharashtra, Tamil Nadu and Andhra Pradesh.</p> <p>Some papers published on KMC practices are:</p> <ul style="list-style-type: none"> - The presence of physician champions improved Kangaroo Mother Care in rural western India (Soni et al., 2015).

		<ul style="list-style-type: none"> - Rolling out of kangaroo mother care in secondary level facilities in Bihar- Some experiences (Neogi SB., Chauhan M., Sharma J., Negandhi P., Sethy. 2016).
Knowledge Management		
Centers of excellence or state-of-the-art facilities for KMC/care of LBW babies	KMC was introduced in 1994/95 in BJ Medical College and Hospital at Ahmedabad, Gujarat. King Edward Medical (KEM) College, Mumbai and All India Institute of Medical Sciences (AIIMS), New Delhi followed soon after. Centers of excellence were established in 2003–2005 at PGI, Chandigarh, KEM, Mumbai, ICH, Chennai, Kalawati Saran Childrens (KSC) Hospital, New Delhi, AIIMS, New Delhi and BJ medical college, Gujarat.	The five centers of excellence that were established in 2003–2005 continue to be centers of excellence today. Additionally, there is a plan in progress to set up model KMC services in 25 regional and state resource centers by the end of 2017.
Training materials, curriculums, international conferences	In 2006–11 there were KMC training workshops held at centers of excellence during newborn week. In 2009, a training workshop on KMC was held at the annual conference of the National Neonatology Forum. The IX International KMC Conference was hosted in India at Hyderabad, Andhra Pradesh.	<ul style="list-style-type: none"> - A working group was established to the request of the MOHFW. This group is developing KMC training manuals for health providers. - All India Institute (AIIMS) developed smartphone apps for continuing education for the management of care for sick newborns based on standard treatment protocols which include KMC components. - In 2009, 2012, and 2016 there have been international KMC conferences organized in India.
Monitoring & Evaluation		
KMC indicators included in the national HMIS		Currently, there are no KMC indicators in the HMIS. The SNCU online software is the portal for data entry on SNCU activities and contains a yes/no indicator on KMC. However, it is not yet very reliable. As mentioned above, GOI has constituted working groups to develop more appropriate indicators and mechanisms for data recording and reporting. Once finalized, these will be included in health information management systems of the country.
Advocacy		
Professional organizations that endorse KMC		<ul style="list-style-type: none"> - The NNF, IAP, IANN, FOGSI, TNAI are some of the professional organizations comprising pediatricians, gynecologists and nurses that endorse KMC. These organizations promote KMC through sessions in conferences and workshops. The NNF developed accreditation guidelines for newborn units in the public and private sector, which include KMC services. A guideline and communication tool on KMC were developed by the NNF and are featured on their website. - The Kangaroo Mother Care Foundation was formed after the 9th International Conference of KMC in India at Ahmedabad with the objective of scaling up awareness, advocacy, and adequate practice of KMC.
Awareness campaigns		KMC is part of training programs. Although communication materials have been developed and are available for download from the GOI website, KMC has not yet been advertised or promoted through multi-media on a large scale.

Champions	Dr. Ashok Deorari trainer and Vinod pushing in newborn care interventions	There are local champions with limited resources. Most of them are clinicians practitioners: Examples include: Prof. Shashi N Vani, Dr Rekha Udani, Prof. Sushma Nangia, Prof. Suman Rao, Dr Ashok Deorari, AIIIMs, Dr Ruchi Nanawati, Mumbai.
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Table II. DHS Proxy Indicators for KMC

DHS Indicators Related to KMC (India DHS, 2005-6)		
Identification of LBW babies	Characteristic	Percent
Percent distribution of live births in the three years preceding the survey by mother's estimate of baby's size at birth, according to background characteristics	<i>Very small</i>	6
	<i>Smaller than average</i>	14.8
Percentage of births that have a reported birthweight		34.1
Percentage of babies weighing less than 2.5 kg among births with a reported birthweight		21.5
Initial Breastfeeding		Percent
Percentage of children born in the past two years who started breastfeeding within one hour of birth		24.5
Percentage of children born in the past two years who started breastfeeding within one day of birth		55.3
Skin-to-Skin Contact		Percent
Percentage of births that have skin-to-skin contact among most recent live birth in the three years preceding the survey		N/A

*The National Family Health Survey, India (NFHS-4) 2015-2016 has more recent data on some of the indicators listed above. <http://rchiips.org/NFHS/nfhs4.shtml>

CHALLENGES

- One of the major challenges in accelerating KMC uptake has been the motivation of health care providers to practice and advocate for this initiative.
- Increasing KMC coverage depends on designating spaces for KMC in the district hospitals in the SUNCs. There are funding gaps to cover the adaptation of KMC spaces in existing facilities and to cover costs of KMC spaces in new facilities.

LESSONS LEARNED

- The active role of MOHFW has been critical in India: they designated two working groups to help accelerate the scale-up of KMC services. One of these working groups is drafting KMC indicators that will be included in the HMIS.
- Local effectiveness data for KMC is important for engaging health professionals in KMC programs.

FUTURE ACTIONS

- The Government of India established a technical advisory group (TAG) comprising two working groups that will develop capacity-building and M&E tools for KMC.
- Funding has been allocated for KMC but more SNCUs will designate space for KMC and provide KMC services.
- The Regional and State Newborn Resource Centers will guide states in implementing KMC and maintaining its quality.

DOCUMENTS AND RESOURCES

Document Title	Link to Document
Kangaroo Mother Care and Optimal Feeding of Low Birth Weight Infants, Operational Guidelines (2014)	www.nrhmorissa.gov.in/writereaddata/Upload/Documents/Operational_Guidelines-KMC_&_Optimal_feeding_of_Low_Birth_Weight_Infants.pdf
India Newborn Action Plan (INAP) (2014).	www.newbornwhocc.org/INAP_Final.pdf
KMC Poster – Kangaroo Mother Care India Network	www.kmcindia.org/images/kmc-poster.pdf
Experience with Kangaroo mother care in a neonatal intensive care unit (NICU) in Chandigarh, India (2009)	Parmar, V.R., Kumar, A., Kaur, R. et al. Indian J Pediatr (2009) 76: 25. https://doi-org.proxygw.wrlc.org/10.1007/s12098-009-0024-2
The presence of physician champions improved Kangaroo Mother Care in rural western India (2015)	Soni, A., Amin, A., Patel, D. V., Fahey, N., Shah, N., Phatak, A. G., Allison, J. and Nimbalkar, S. M. (2016), The presence of physician champions improved Kangaroo Mother Care in rural western India. Acta Paediatr, 105: e390–e395. doi:10.1111/apa.13445
Rolling out of kangaroo mother care in secondary level facilities in Bihar-Some Experiences (2016)	Neogi SB, Chauhan M, Sharma J, Negandhi P, Sethy G. (2016). Rolling out of kangaroo mother care in secondary level facilities in Bihar- Some experiences. Indian J Public Health;60:302-308
Efficacy of Skilled based Teaching Program on Kangaroo Mother Care among Postnatal Mothers in a Rural Tertiary Care Teaching Hospital of Central India (2016)	Wasnik, Arti Madhukar. 2016. Efficacy of skilled based teaching program on kangaroo mother care among postnatal mothers in a rural tertiary care teaching hospital of central india. Asian Journal of Nursing Education and Research 6, (3) (Jul): 331-336, http://proxygw.wrlc.org/login?url=https://search-proquest-com.proxygw.wrlc.org/docview/1861026495?accountid=11243
Initiating Kangaroo Mother Care in Facilities in Limited Resource Settings (2016)	www.annalsofglobalhealth.org/article/S2214-9996(17)30322-3/pdf
Community based kangaroo mother care for low birth weight babies: A pilot study (2017)	Rasaily, R., Ganguly, K. K., Roy, M., Vani, S. N., Kharood, N., Kulkarni, R., ... Kanugo, L. (2017). Community based kangaroo mother care for low birth weight babies: A pilot study. The Indian Journal of Medical Research, 145(1), 51–57. http://doi.org/10.4103/ijmr.IJMR_603_15

REFERENCES

1. International Institute for Population Sciences (IIPS) and Macro International. (2007). National Family Health Survey (NFHS-3), 2005–06: India: Volume I.
2. Ministry of Health and Family Welfare, Government of India. (2014). India Newborn Action Plan (INAP). www.nrhmorissa.gov.in/writereaddata/Upload/Documents/Operational_Guidelines-KMC_&_Optimal_feeding_of_Low_Birth_Weig
3. Ministry of Health and Family Welfare, Government of India. (2014). Kangaroo Mother Care and Optimal Feeding of Low Birth Weight Infants. www.nrhmorissa.gov.in/writereaddata/Upload/Documents/Operational_Guidelines-KMC_&_Optimal_feeding_of_Low_Birth_Weight_Infants.pdf
4. Neogi SB, Chauhan M, Sharma J, Negandhi P, Sethy G. (2016). Rolling out of kangaroo mother care in secondary level facilities in Bihar- Some experiences. Indian J Public Health;60:302-308
5. Parmar, V.R., Kumar, A., Kaur, R. et al. (2009). Experience with Kangaroo mother care in a neonatal intensive care unit (NICU) in Chandigarh, India. Indian Journal of Pediatrics. 76: 25. <https://doi-org.proxygw.wrlc.org/10.1007/s12098-009-0024-2>
6. Srivastava, R. (2016). Hindustantimes. UP hospitals to fight infant mortality with mom’s magic touch. www.hindustantimes.com/india-news/up-hospitals-to-fight-infant-mortality-with-mom-s-magic-touch/story-ZpACKm9glxpDCMgpKR7zAK.html
7. Soni, A., Amin, A., Patel, D. V., Fahey, N., Shah, N., Phatak, A. G., Allison, J. and Nimbalkar, S. M. (2016). The presence of physician champions improved Kangaroo Mother Care in rural western India. Acta Paediatr, 105: e390–e395. doi:10.1111/apa.13445
8. Wasnik, Arti Madhukar. 2016. Efficacy of skilled based teaching program on kangaroo mother care among postnatal mothers in a rural tertiary care teaching hospital of central india. Asian Journal of Nursing Education and Research 6, (3) (Jul): 331-336, <http://proxygw.wrlc.org/login?url=https://search-proquest-com.proxygw.wrlc.org/docview/1861026495?accountid=11243>