



**INTEGRATING NEW WHO
EVIDENCE ON EARLY
INITIATION OF KANGAROO
MOTHER CARE IN UNSTABLE
PRE-TERM BABIES.**

Implications for implementation

ONLINE LEARNING EVENT REPORT

Event Highlights

Webinar

Kangaroo Mother Care

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Organized and hosted by the World Health Organization (WHO) (Uganda), USAID Maternal Child Health and Nutrition (MCHN) Activity and Makerere University School of Public Health – Centre of Excellence for Maternal Newborn and Child Health

Goal

Discuss how the recent WHO Kangaroo Mother Care trial findings can influence KMC guidelines and programming in Uganda

Guest Presenter

Dr. Rajiv Bahl, WHO, Geneva

Moderator

Dr. Peter Waiswa, Makerere University School of Public Health

Background

Globally, there are about 20 million babies born every year with low birth weight (LBW), accounting for 15% of all births. Of those born with low birth weight, 95% are in Low- and Middle-Income Countries. Pre-maturity is one of the leading causes of death among newborns, including death due to pre-term complications and indirect causes of death such as infection and asphyxia. Pre-term or low-birth weight babies make up the largest proportion of neonatal mortality. Most pre-term deaths occur before stabilization. For more than two decades, Kangaroo Mother Care (KMC) has been recommended by WHO as a method to improve survival rates of unstable babies. However, global coverage of KMC remains low (less than 5%). KMC is only initiated in hospitals, yet many mothers give birth outside of health facility setting; many mothers are discharged from hospitals early. Up to 1.6 million babies are born every year in Uganda, the 13th highest birth rate in the world. Pre-term births account for 14% of births in Uganda, placing Uganda 29th worldwide for percentage of pre-term births. In Uganda, about 14,000 babies die annually due to pre-term complications. Despite the efforts and will to expand KMC coverage, there is still work to do to improve survival rates of low birth-weight babies in Uganda. Recently, WHO released findings of a large randomized controlled trial conducted amongst newborn babies weighing between 1 kg and 1.799 kg, to assess safety and efficacy of KMC done immediately after birth in five low-income countries (Ghana, Tanzania, Malawi, India and Nigeria). The study showed reduced mortality at 28 days and improved neonatal survival among babies assigned to immediate KMC compared to babies not assigned immediate KMC. In this online learning event, experts in newborn care and programming discussed what the recent WHO evidence on successful initiation of Kangaroo Mother Care immediately after birth means for KMC implementation in Uganda.

Introductory Remarks

Dr. Peter Waiswa, Makerere University School of Public Health

“Uganda has made significant progress in terms of reducing child mortality. Most likely, we are projected to achieve SDGs if we accelerate further. But, new-born care still holds us behind. For the last 15 years Uganda’s neo-natal mortality rate, has remained stagnant.”

Highlights

- + Reconciliation of the data from UDHS 2016 against the UN projections, remains a challenge. However, as Uganda is producing the new UDHS report (2021), a clearer comparison will be made with new data.
- + Pre-mature births have remained a problem with very high pre-maturity rates and high mortality from pre-maturity.

- + The current design for pre-term care was designed so that mothers with a sick newborn would be referred to the capital city of Kampala. However, in the current circumstances it is no longer pragmatic and quality new-born care is required across the country.
- + WHO data will provide evidence to help Uganda reflect on why and how progress in improving premature births has been impeded. Evidence demonstrates that KMC can be introduced at lower-level facilities as well as tertiary hospitals. The webinar is timely as Uganda is in the process of finalizing its KMC guidelines and scale up of new-born care.

“KMC is very effective but it is not also very cheap. The new evidence to make it work requires significant funding.” Dr. Peter Waiswa, Makerere University School of Public Health

Dr. Christine Mugasha, USAID Uganda

“Pre-maturity is the highest contributor of deaths of new-born deaths and deaths of under-fives. Unfortunately, 85% of pre-term babies die between 32 and 37 weeks; these are babies that we can save because solutions are out there, but we need to critically reflect and strategize on how we can provide the services, facilitate prevention and ensure that these life-saving interventions are accessible in all corners of the country”.

Highlights

- + KMC is one of the cheapest interventions for pre-term care.
- + KMC improves bonding between mother and baby; increases breast milk supply; increases parental confidence in caring for the baby; and gives the family a sense of control in meeting the baby’s needs.
- + Uganda has been doing a lot of work towards developing KMC guidelines and this discussion is timely as the country scales up KMC. Within the USG implementing mechanisms that support the region, KMC will be prioritized for the next financial year to ensure that providers are updated on implementation.
- + KMC will be promoted as the single most important intervention to facilitate survival for pre-term babies.

NEW EVIDENCE ON KMC: IMPACT ON NEW-BORN CARE

Dr. Rajiv, Head of the Research Team at the Department of Maternal, New-Born, Child, Adolescent and Aging Health at WHO, Geneva. Head of the WHO new-born unit

Dr. Rajiv presented recent evidence from 3 WHO studies on effectiveness of better implemented KMC in improving survival of unstable and low-birth weight new-born babies.

Context

Pre-maturity is one of the leading causes of death among new-born babies. Pre-maturity also contributes to indirect deaths due to infection, asphyxia and pre-term birth complications. The largest proportion of neonatal mortality is among pre-term or low-birth weight babies. Therefore, reduction of mortality in this

group significantly contributes to a reduction in overall infant mortality rates. Antenatal corticosteroids, Kangaroo Mother Care, respiratory support (including CPAP - Continuous Positive Airway Pressure), and infection prevention and management, are the most important interventions to constitute a basic minimum package of care for addressing neo-natal mortality. KMC reduces mortality among stable low birth weight babies by 40%, and has been recommended by WHO for two decades. Despite this evidence, global coverage of KMC remains low at less than 5%. KMC is only initiated in hospitals, yet many mothers give birth outside of hospital settings and many mothers are discharged from hospitals early.

WHO-coordinated KMC research program to address these key gaps:

- + How can high KMC coverage be achieved at scale when the global KMC coverage is <5%?
- + Does community initiated KMC save lives?
- + Does KMC initiated immediately after birth save even more lives?
- + How can the barriers to achieve high coverage and quality be overcome in different contexts?

Study 1: KMC implementation research on scale-up

This mixed-methods study was conducted in Ethiopia and India over a 12-month period to identify ways to achieve high coverage and quality of KMC care in different contexts. The study identified six critical actions to achieve high coverage of KMC.

- + **Pre-facility intervention:** identify all low birth weights babies and refer them for care.
- + **KMC ward:** provide a dedicated environment for providing KMC.
- + **Respect and care for mothers:** ensure access to basic amenities (bed, food, toilet, bath).
- + **Conviction of staff that KMC is the standard of care:** build positive attitudes among staff to promote KMC implementation.
- + **Link between hospital and home:** provide continued support at home through community workers.
- + **Government ownership and system changes:** improve facilities for KMC starting with starting with government/public health facilities.

Study 2: Impact of Community Initiated KMC on Neo-natal and Infant Survival

Conducted in rural and semi-urban areas in Haryana, India, this Randomized Controlled Trial was conducted to determine the impact of community initiated KMC on mortality between enrollment and 28 days and enrollment and 180 days. It involved initiation of KMC at home (soon after birth) to low-birth-weight babies born at home or discharged early from hospital. Community workers visited homes up to ten times to support and promote KMC.

Results:

- + KMC initiated at home is feasible; with early initiation.
- + Community initiated KMC can reduce infant mortality; the interventions had contributed to a 25% reduction in mortality in babies under 6 months of age.
- + KMC is good for all low-birth weight babies (pre-term infants and those below two kilograms); as evidenced by a 25% reduction in mortality resulting from the study intervention.
- + KMC had positive effects on exclusive breastfeeding rates; reduced severe infections among newborns; reduced severe pneumonia and diarrhea at 3 months, and reduced severe wasting at 6 months.

Study 3: Immediate KMC and survival of low birth-weight infants

With evidence that half of pre-term deaths occur in the first 24 hours of life and over three quarters in the first week, WHO set out to identify the effect of continuous KMC initiated immediately after birth on survival of low birth-weight infants. This multi-country randomized controlled trial involved infants with a mean age of 3 days in Ghana, Nigeria, Tanzania, Malawi, and India. Key interventions included: continuous skin-to-skin contact with mothers starting KMC within hours of birth and up to 20 hours a day, counselling and support for exclusive breast-feeding, and provision of required medical care for mother and baby in a neo-natal intensive care unit.

Key outcomes:

- Immediate KMC reduces the risk of neo-natal death by 25%. Other benefits include lower occurrences of hypothermia, lower sepsis-related deaths, lower sudden deaths, and more babies initiated on breast milk earlier.
- Mother-new-born Intensive Care Unit (M-NICU) is a paradigm shift in the care of low birthweight babies. It provides a conducive environment for mothers to practice KMC and to be with and monitor their babies 24/7.

“Mother is the biggest benefactor/guardian angel for the baby, and so, separating mother from baby (even those that are birthed through C-section makes no sense.” Dr. Rajiv Bahl, WHO, Geneva

Potential impact of KMC on neo-natal mortality based on WHO evidence

These three research studies showed greater potential for reduction in neo-natal mortality resulting from increased coverage of immediate KMC (in both home and hospital settings) and Community-initiated KMC.

Implications for policy and practice

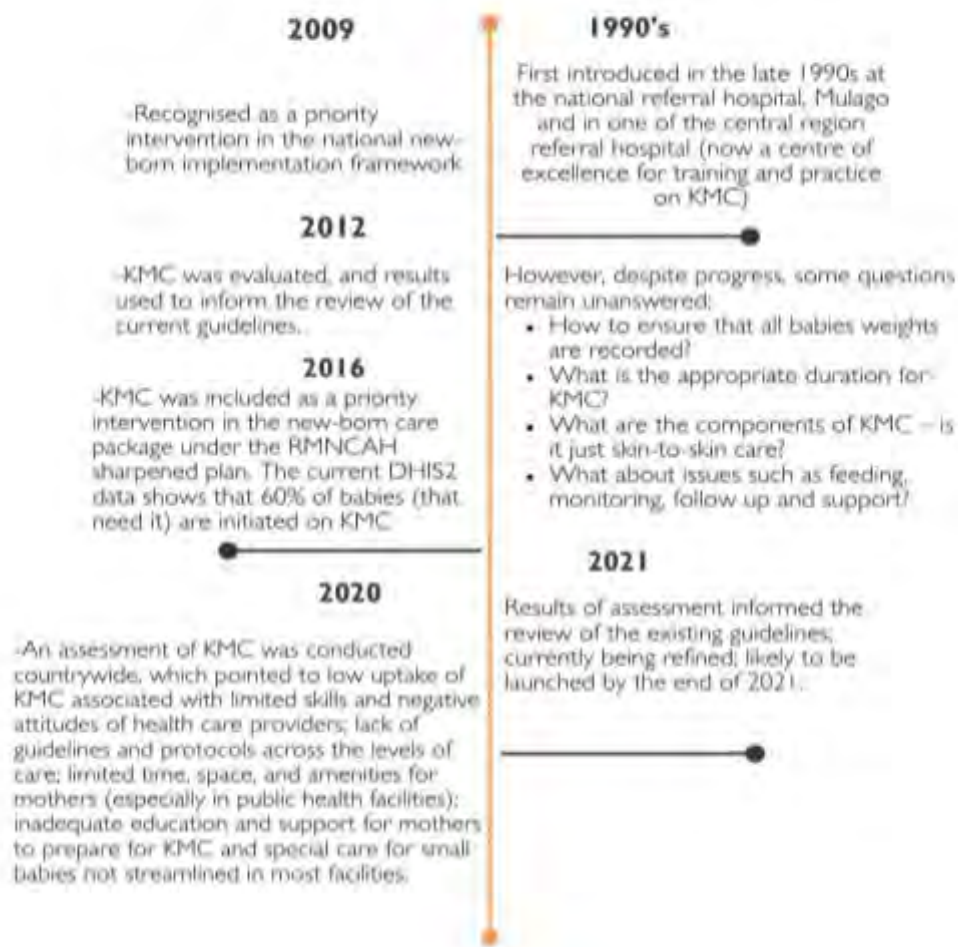
- KMC requires system changes: Redesigning existing spaces to create M-NICUs that include an adult bed with back support, a monitor, CPAP machine, a warmer, provision for IVF oxygen, and other necessities (hand hygiene area, washing area, infection control area, etc.).
- Collaboration among obstetricians and neonatal specialists to provide care for both mother and baby.
- Overcoming the belief that 24/24 KMC and care using hi-tech solutions (such as incubators and sterilized ICUs) is better than KMC. The WHO studies have demonstrated that hours of KMC (8, 11, or 17) can save lives.
- Consider integrating community-initiated KMC in routine programs.

UGANDA KANGAROO MOTHER CARE GUIDELINES

Dr. Sarah Naikoba, Save the Children

Uganda KMC guidelines are under review by Ministry of Health KMC taskforce, and WHO data will be used to further strengthen them. The guidelines promote survival and optimal development of low birth-weight babies and provide guidance on comprehensive KMC as a part of the standard care for pre-term and low birth-weight babies. From the national level to the community level, the guidelines will offer a framework to introduce, roll out, and monitor KMC. The guidelines will also include a road map on how to organize and introduce KMC at the health facility (scope of care, infrastructure, human resources, and equipment needs for both baby and mother).

KMC HISTORY IN UGANDA



The guidelines prescribe key components of comprehensive KMC goals (What, When, Where and How) in 5 areas, namely: Continuous skin-to-skin contact of babies and their mothers; feeding; monitoring; counselling and support; and follow up care.

PANEL DISCUSSION

KMC Coverage Status and Focus

Dr. Jesca Nsungwa, Commissioner for Child Health, Ministry of Health

KMC coverage status

- National KMC coverage is about 28%. A third (20%) of facilities (Regional Referral Hospitals and some Health Centre IVs) have KMC practice in place; some provide special rooms for KMC.
- Introduced KMC in pre-service training to be able to empower health professional with KMC skills.
- The Minister of Health has signed a commitment to campaign for the care of pre-term birth services, particularly the use of corticosteroids and KMC.
- KMC has been introduced into the Health Management Information System, making it possible to track progress and identify areas for action.
- The Ministry of Health is working with professional bodies to advocate for, create champions, and raise awareness on KMC.

KMC focus

The Ministry of Health is focusing on the following:

- Improving quality of KMC by strengthening processes such as transfer and clothing of babies.
- Developing quality improvement models, focusing on pre-term birth (such as improvement collaboratives and functional health delivery points - especially HCIVs).
- Positioning KMC in the government's human capital development agenda - a new transformative agenda that holistically focuses on the baby before birth, during birth, and the first years of life. The emphasis is on investing in human resource capital and is an opportunity to push for training on quality early childhood development and psycho-social support. KMC will be positioned as part of the comprehensive package of services for babies.
- Lessons learned from COVID-19 response stress the importance of investing in infrastructure, including opportunities for remodeling existing spaces to improve quality of care. For example, in Jinja hospital, the team utilized existing space to establish a special ward for mothers with COVID-19
- Ensure health facilities have appropriate room for KMC: under activities funded through a World Bank loan, there is on-going work to construct Mother-New-born Intensive Care Units, aimed at improving mother and new-born care services. It may be necessary to revisit the models to ensure the facilities are appropriate for KMC, based on the evidence from WHO.
- Leverage gains made from COVID-19 response on infection control: there is a paradigm shift (in terms of thinking and practice) that KMC alone may not reduce infant mortality, it should be included as part of a minimum package of new-born care.

"...Human resource capacity for KMC implementation- still remains an issue and an area of focus for the Ministry. The idea is to invest in pre-service training and also work with professional bodies, it is possible to increase the workforce and make task shifting possible in this area". Dr. Jesca Nsungwa, Commissioner for Child Health, Ministry of Health

MRC's Experience based on Omwana Study

Presented by Dr. Victor Tumukunde

Omwana - stands for operationalizing KMC before stabilization among low birth-weight babies. A study conducted by MRC-UVRI in collaboration with the London School of Hygiene and Tropical Medicine and Makerere University.

In this study, MRC examines the impact of early KMC (initiated before stabilization, before 7 days) on mortality, its feasibility, and what it takes to undertake an approach to KMC in Ugandan settings. The randomized controlled trial is conducted in 4 referral hospitals in Entebbe, Masaka, Kawempe, and Jinja. The study also added a district hospital (Iganga) to compare results of a district hospital with those of a regional referral hospital. The study examines the cost effectiveness of the intervention and explores causal pathways and the barriers and facilitators to initiating early KMC in Ugandan settings.

- The study supported construction/re-modelling of spaces to create Mother-Newborn Intensive Care Units (M-NICU) with hand-washing and sanitary facilities and oxygen facilities. In Jinja, massive construction of M-NICU was undertaken, and other hospitals creatively redesigned existing spaces.
- Initial results from the study indicate the critical need to establish a specialized space for KMC with sanitary and other necessary amenities. It also demonstrated the need to consider KMC as part of a package for new-born care implemented with other life-saving interventions. The study has not yet established the cost effectiveness of this intervention in Ugandan settings.
- KMC alone is not enough to reduce infant mortality; it should be considered as part of a package for new-born care, implemented with other life-saving interventions.

Re-designing a neo-natal care unit centered around the mother in Mbale Hospital

Kathy Burgoine – Mother-Centered KMC model, Mbale Hospital

The team at Mbale Hospital has introduced a level two neo-natal unit and a ten-bed Mother-Newborn Intensive Care Unit with CPAP and immediate Kangaroo Care Services. The hospital has been working towards initiating KMC as early as possible and encouraging family members to support the mother to do KMC.

The experience:

- Mbale Regional Referral Hospital reduced pre-term mortality from nearly 60% to about 20%. The hospital can now support babies up to 28 weeks.
- When the hospital started implementing the mother-centered KMC model in 2015, they had space for 10 mothers and 10 babies to practice continuous KMC. Admissions have increased over the last 7 years, and the little 10-bed unit now has 60 babies in it. The hospital has had to innovate to continue providing KMC services amidst the challenges of limited space, equipment, and supplies. For example, mothers sit on stools to practice KMC and plastic bags are used to maintain normal temperature of babies.
- The hope is that a focus on expanding and improving quality of KMC will enable the hospital to create space and prioritize babies that critically need support.

QUESTION AND ANSWER SESSION

- How do you build buy in for KMC?
- How do you bring the private health facilities on board in terms of implementing KMC?
- How does KMC reduce infections?
- Will initiating KMC lead to complications (e.g. regurgitation)?
- How do you support mothers to continue KMC at home?
- What is the role of fathers? What other supports are available for the mother at home?

Dr. Rajiv Bahl, WHO, Geneva

- Before the immediate KMC study, the mortality in different settings was 25%-50% among babies below 1.8 Kilogram. We were able to reduce mortality among all babies in the control group by 50%. This implies that any improvement in KMC improves survival rates of pre-term babies.
- The need to measure indicators is critically important, particularly exclusive breastfeeding during KMC and skin-to-skin contact during hospital stays. Initiation of KMC will not achieve desired results without additional interventions such as exclusive breastfeeding.
- KMC is one of the most accepted interventions; even in Muslim countries, as long as the mothers and other supportive members of the community and family are sensitized on its importance and sensitive means of doing it are encouraged. For example, in Muslim countries, one has to be sensitive to women having clothes with openings on the back and full sleeves. There is need to de-sensitize health workers to trust that mothers (who play a critical part) are able to safely do KMC if well prepared.
- While we need more space for KMC and new-born units, the challenge of space should not deter KMC efforts. Studies with district hospitals in India and Ethiopia show that it is possible to creatively re-model existing spaces to accommodate Mother-New-born units.
- Most of the care happens at home and in health facilities. Strengthen emergency obstetric care alongside new-born care. Wherever there is an emergency obstetric care unit, there should be emergency new-born care available.
- Measuring and recording accurate birth weight is key to identifying babies that need KMC and increasing KMC coverage.
- KMC is one of the most cost-effective interventions, but it has costs associated with creating/reorganizing spaces and mothers' stay in the facility. It is important to prioritize KMC costing in government and development cooperation plans to achieve the Strategic Development Goals.

Grace Latigi – UNICEF, Uganda

- KMC is a critical area for UNICEF and UNICEF has been working with government and partners to scale up KMC. UNICEF has provided equipment and supplies for new-born units; engaged facility administrators to provide space for new-born care units and supported training of health workers in KMC.
- UNICEF is committed to taking the evidence provided by WHO and other actors that have piloted KMC models in Uganda and elsewhere to support scale-up. The new guidelines and emerging evidence will help streamline and ensure a standard approach to KMC.
- In addition to training health workers, it will be critical to provide guidelines and protocols, support supervision and sensitize mothers and communities to appreciate the benefits of KMC.

CLOSING REMARKS

Dr. Bodo Bongomin, WHO Uganda

Dr. Bodo Bongomin appreciated Dr. Rajiv for the presentation, the organizers for putting together a successful webinar and participants for attending and engaging. In addition to suggesting infrastructure development/re-design and training health care providers.

Dr. Bongomin noted three critical points for scaling up and improving KMC:

1. Advocacy for adequate maternity leave to allow mothers (especially those in the formal sector) to provide KMC to their babies.
2. Engagement of community structures to support KMC.
3. Develop a matrix to monitor scale up and roll out of KMC interventions.