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Ministry of Health

Kangaroo Mother Care Implementation Guidelines, December 2024

Sierra Leone

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Foreword

Sierra Leone has made significant progress in reducing under-five mortality; however, newborn deaths remain unacceptably high at 31 per 1,000 live births (Sierra Leone DHS (2019). According to the United Nations Inter-Agency Group for Child Mortality Estimation (UNIGME 2020), data shows that the under-five mortality rate decreased from 226 per 1,000 live births in 2000 to 105 per 1,000 livebirths in 2021, and neonatal mortality reduced from 48 per 1,000 live births in 2000 to 31 per 1,000 live births in 2021. According to the Sierra Leone DHS (2019), neonatal deaths contribute 25.4% to under-five deaths with Prematurity, birth asphyxia and neonatal sepsis as are the leading causes.

The high rate of newborn mortality reflects a significant gap in the provision of basic obstetric and newborn services, particularly at primary healthcare centres and hospitals, and highlights the need for Sierra Leone to prioritise newborn health in policy and programming. A newborn's ability to survive and thrive during the neonatal period and infancy is strongly influenced by birth weight. Low birth weight is the most important contributing factor to neonatal morbidity and mortality. If the current trend continues, Sierra Leone will fail to attain the SDG target of reducing neonatal mortality to less than 12 per 1,000 live births by the year 2030.

The Sierra Leone Kangaroo Mother Care Implementation Guideline describes the Kangaroo Mother Care (KMC) method for the care of preterm and low-birth-weight newborns and gives recommendations on how to introduce, organise, and carry out KMC at all levels of healthcare. The guideline is largely adapted from the WHO's "Recommendations for the Care of the Preterm or Low-Birth-Weight Infants 2022" and the global position paper on Kangaroo Mother Care, "A Transformative Innovation in Healthcare."

Kangaroo Mother Care, as outlined in this guideline, is defined as early, prolonged, and continuous skin-to-skin contact between a mother or her surrogate and her low-birth-weight infant. It has been identified as a low-cost, high-impact intervention for the management of preterm and low-birth-weight newborns, with the aim of improving the survival of these babies and contributing to the overall reduction of newborn mortality.

This guideline is intended for use by policymakers, planners, managers, healthcare providers, and health training institutions for training students.

I am confident that the implementation of this guideline will contribute to the reduction of preventable newborn deaths in Sierra Leone, and I urge all stakeholders to support the required implementation efforts at scale in order to meet the targets we have set as a country for newborn and child health.

Dr. Francis Moses
Director-Reproductive and Child Health
Ministry of Health

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Margaret Tity Mannah
Manager- National Quality Management program
Ministry of Health

Definition of Terms

Term gestation:	Born between 37 completed weeks to 42 completed weeks of gestation.
Preterm birth:	Born before 37 completed weeks of gestation.
Extremely preterm:	Born before 28 completed weeks of gestation.
Very preterm:	Born between 28 to <32 completed weeks of gestation.
Moderate to late preterm:	Born between 32 to <37 completed weeks of gestation.
Low birth weight:	Birth weight below 2500g (2.5kg) regardless of gestational age.
Very low-birth-weight infant:	Birth weight from 1000g to less than 1500g, regardless of gestational age.
Extremely low-birth-weight infant:	Birth weight below 1000g, regardless of gestational age.
Stable baby:	A newborn who can breathe spontaneously, is not in shock, and does not need mechanical ventilation. The infant's clinical condition (including heart rate, breathing, colour, temperature, and oxygen saturation) remains stable and does not require continuous medical support or monitoring.
Unstable non-critical:	A sick infant on medical interventions but haemodynamically stable and not on mechanical ventilation.
Unstable critical baby:	An infant who is unable to breathe spontaneously after resuscitation, is in shock, or needs mechanical ventilation.
Surrogate:	Fathers, caregivers, and other family members who take on an active role in the care of preterm or low-birth-weight infants, including offering Kangaroo Mother Care (KMC).
Small for gestational age:	Born <10th percentile of weight for gestational age.
Newborn mortality:	Death of a newborn in the first 28 days after birth.
Neonatal mortality rate:	Newborn deaths in the first 28 days after birth per 1000 live births.

Abbreviations

ANC	Antenatal Care
BPA	Bisphenol A
BEmONC	Basic Emergency Obstetric and Newborn Care
CHW	Community Health Worker
C-KMC	Continuous Kangaroo Mother Care
EBM	Expressed Breast Milk
ENC	Essential Newborn Care
FMC	Facility Management Committee
IEC	Information, Education, and Communication
IVF	Intravenous Fluids
HEI	HIV-Exposed Infant
iKMC	Immediate Kangaroo Mother Care
i-KMC	Intermittent Kangaroo Mother Care
KMC	Kangaroo Mother Care
LBW	Low Birth Weight
MCH	Mother and Child Health
MNH	Maternal and Neonatal Health
MNCU	Maternal and Neonatal Care Units
MOHS	Ministry of Health and Sanitation
NGT	Naso-Gastric Tube
NOPC	Neonatal Outpatient Unit
NQMP	National Quality Management Programme
OGT	Oro-Gastric Tube
POPC	Paediatric Outpatient Clinic
PMTCT	Prevention of Mother-to-Child Transmission of HIV
RMNCAH	Reproductive, Maternal, Newborn, Child, and Adolescent Health
SDGs	Sustainable Development Goals
SLMA	Sierra Leone Midwives Association
SLNA	Sierra Leone Nurses Association
SLOGA	Sierra Leone Obstreticians and Gynaecologists Association
SLPA	Sierra Leone Paediatric Association
SOPs	Standard Operating Procedures
SSNB	Small and Sick Newborns

SECTION - 1: GUIDELINES

1.0 Introduction

Preterm infants are those born before 37 completed weeks of gestation, while low-birth-weight (LBW) infants have a birth weight below 2.5 kg.

Globally, **20.5 million low-birth-weight infants** (14.6% of all births) and **14.8 million preterm** births (10.6% of all births) occur annually. Over 90% of LBW births occur in low- and middle-income countries, primarily in South Asia and sub-Saharan Africa, where the majority of neonatal deaths also occur. More than 80% of global neonatal deaths are among LBW newborns, of which two-thirds are preterm, and one-third are small for gestational age (SGA).

Newborn mortality remains the leading contributor to deaths of children under five globally. In 2019, nearly half (46%) of all under-five deaths were neonatal. Approximately 45% of all under-five deaths occur in the neonatal period, with 60–80% of these deaths attributable to prematurity and/or small for gestational age. Preterm and LBW infants have a **2- to 10-fold higher risk of mortality** compared to term infants with normal birth weight.

In **Sierra Leone,** 23,000 babies are born too soon each year, and 2,840 children under five die from direct complications of prematurity. Prematurity accounts for 45% of neonatal deaths, while birth asphyxia accounts for 25% (SL DHIS, 2019).

LBW infants (those born alive weighing less than 2500g, regardless of gestational age) are at greater risk for:

- Infections

- Hypothermia
- Hypoglycaemia
- Respiratory failure
- Growth failure (stunting, wasting, and underweight)
- Short- and long-term neurodevelopmental delays, including poor academic performance and behavioural challenges in later life

This increased vulnerability contributes significantly to the burden of noncommunicable diseases and loss of human capital.

1.1 Causes of Premature Labour

Premature labour can result from various factors, including:

- Infections
- Diabetes
- Hypertensive disorders
- Poor maternal nutrition
- Multiple pregnancies
- Limited prenatal care among others

Although 79% of women in Sierra Leone attend four or more antenatal care (ANC) contacts (DHS, 2019), many do not receive the necessary screening to identify and manage maternal conditions that contribute to preterm birth.

1.2 Solutions for Preterm and LBW Infant Survival

Effective interventions to improve survival and health of preterm and LBW infants include:

- Kangaroo Mother Care (KMC)
- Essential Newborn Care (ENC)
- Breastfeeding support
- Infection prevention
- Respiratory support

These measures can mean the difference between life and death. Care of preterm babies requires wel trained staff and only a small proportion require specialized equipment such as incubators for thermoregulation and respirators to support breathing.

In many health facilities across Sierra Leone, there are:

- Insufficient numbers of healthcare providers are trained to care for preterm and LBW infants.

- Inadequate equipment (e.g., incubators, which are often shared, increasing the risk of hospital-acquired infections).
- Poor maintenance of incubators and unreliable power sources, which cause temperature fluctuations, leading to hypothermia or hyperthermia.

1.3 Kangaroo Mother Care (KMC)

This guideline introduces Kangaroo Mother Care as a **low-cost, high-impact intervention** for the care of preterm and LBW infants. It outlines KMC implementation at all levels of newborn care—primary, secondary, and tertiary—as well as in home settings. It also addresses how health services can promote family involvement in the care of preterm or LBW infants, regardless of their clinical condition.

This guideline is intended for:

- Policymakers
- Planners
- Healthcare providers
- Trainers
- Health training institutions

1.3.1 Definition of Kangaroo Mother Care (KMC)

Kangaroo Mother Care is defined as the care of preterm or Low Birth weight infants in **early continuous and prolonged skin-to-skin contact** (8–24 hours per day) between a mother or her surrogate and the infant, initiated immediately after birth unless the newborn is critically ill. This care is supported by **exclusive breastfeeding or breast milk feeding**.

Difference between KMC and Skin-to-Skin Care:
While skin-to-skin care is recommended for all newborns immediately after birth (lasting at least one hour to ensure warmth and promote early breastfeeding), KMC involves extended skin-to-skin contact over days or weeks.

1.3.2 Types of Kangaroo Mother Care (KMC)

1. Immediate KMC

Initiated as soon as possible within 24 hours after birth for all stable and unstable preterm or LBW infants, except those who:

- Are unable to breathe spontaneously after resuscitation.
- Are in shock.
- Require mechanical ventilation.
- Have congenital malformations that restrict KMC.

Benefits of Immediate KMC (WHO 2021):

- Reduces mortality.
- Lowers the risk of infections.
- Increases breastfeeding rates.
- Prevents hypothermia.

Note: WHO KMC 2023 recommends immediate KMC for all preterm and LBW babies unless critically unstable. In Sierra Leone, space and resource constraints may pose challenges but should not prevent the practice of immediate KMC.

2. Continuous KMC (After Stabilisation)

Continuous KMC involves skin-to-skin contact for a minimum of **20 hours up to 24 hours daily**, except for brief interruptions (e.g., maternal hygiene, diaper change). Family members, such as fathers or grandmothers, can assist during these breaks.

3. Intermittent KMC

- Skin-to-skin contact is practised for a few hours daily, with each session lasting 60–90 minutes.
- Total daily duration should be **at least 8 hours**.
- When not in the KMC position, the baby is kept warm in an incubator or warmly wrapped.
- Used mainly for small or sick infants or when mothers are not ready for continuous KMC.

Key Recommendation for Sierra Leone:

Regardless of the type of KMC (immediate, continuous, or intermittent), KMC should begin immediately after birth for all preterm or LBW infants unless critically unstable. For unstable infants, KMC can start immediately after stabilisation.

1.4 Key Elements of KMC

1. **Position:** Early, continuous, and prolonged skin-to-skin contact between mother/surrogate and the infant.
2. **Nutrition:** Exclusive breastfeeding or exclusive breast milk feeding.
3. **Discharge:** Adequate support and follow-up post-discharge.
4. **Environment:** Supportive environment in healthcare facilities and at home.

1.5 History of Kangaroo Mother Care (KMC)

Global Context

Kangaroo Mother Care (KMC) was first introduced in Bogotá, Colombia, in 1978 by Drs. Edgar Rey and Hector Martinez Gomez. Their goal was to address the high morbidity and mortality rates among low-birth-weight (LBW) infants, driven by:

- Overcrowded neonatal units,
- Scarcity of incubators,
- High rates of newborn infections, and
- Parental abandonment of hospitalized infants.

In 2003, the World Health Organization (WHO) published a practical guide on KMC for healthcare providers. Later, KMC became a key milestone in the Every Newborn Action Plan (ENAP), with WHO publishing evidence-based recommendations in 2014 to accelerate its global implementation.

Sierra Leone Context

In 2017, Project HOPE (an NGO) established the first two KMC units at the Ola During Children's Hospital and Bo District Hospital.

In 2018, UNICEF sponsored three pediatricians and two SCBU in-charges to attend a five-day international KMC training program with the aim of scaling KMC practice across the country. These participants later conducted training sessions across Sierra Leone's four regional hospitals.

Despite these initial efforts, KMC uptake and scale-up across the country have been limited. Factors contributing to the slow adoption include:

- Lack of formal KMC implementation guidelines,
- Inadequate resources,
- Absence of a standardized checklist for KMC supervision,
- Lack of mentorship and,
- Poor monitoring tools for KMC implementation.

A recent KMC baseline assessment (April 2024) across 16 Special Care Baby Units (SCBUs) revealed that Sierra Leone scored 4 out of 30 points, placing the country at a pre-implementation stage. This reflects suboptimal KMC practice, with low levels of appropriate initiation, limited infrastructure, insufficient staffing, and inadequate training.

1.6 Rationale for KMC Implementation Guidelines

Currently, Sierra Leone lacks formalized guidance for effective KMC implementation.This includes the absence of KMC implementation guidelines, KMC supportive supervision

checklist, KMC monitoring tools for health care providers and program managers, which has hindered the establishment of KMC as a safe and effective intervention for managing LBW babies.

The **April 2024 KMC baseline assessment** identified critical gaps in:

- Appropriate KMC initiation and practice,
- Infrastructure and staffing,
- Record-keeping on KMC admissions, discharges, and follow-ups,
- Data quality,
- Availability of trained KMC staff.

To address these challenges, this guideline has been developed to provide a structured approach to standardize and scale up KMC practices across health systems (hospitals, health center and in the community).

1.7 Benefits of Kangaroo Mother Care (KMC)

KMC provides significant benefits to infants, mothers, healthcare facilities, and the country at large.

Table 1, Benefits of Kangaroo Mother Care (KMC) for the Baby, Caregiver, and Health System

Benefits to the Baby	Benefits to the Mother/ Caregiver	Benefits to the Facility/ Country
■ Improved cardiac and respiratory stability	■ Boosts the mother's confidence in caring for her infant	■ Significant cost savings, as KMC reduces dependence on incubators
■ Effective in managing mild respiratory distress	■ Enhances bonding between mother and infant due to physical closeness	■ Requires fewer nursing staff, as mothers are the primary caregivers
■ Improved gastrointestinal function	■ Empowers mothers to take an active role in infant care ■ Mothers are enabled to become the primary care giver of their infants	■ Promotes shorter hospital stays
■ Higher rates of breastfeeding initiation and duration	■ Encourages exclusive breastfeeding, benefiting both mother and infant	■ Reduces morbidity and mortality rates, aligning with SDG targets

Benefits to the Baby	Benefits to the Mother/ Caregiver	Benefits to the Facility/ Country
■ Lower energy expenditure and satisfactory weight gain	■ Reduces the mother's risk of moderate to severe depressive symptoms	■ Enhances the morale and quality of care provided by healthcare staff
■ Protection against nosocomial infections	■ Involves fathers and empowers them in nurturing their neonates, reducing paternal depression and family relationship problems	■ Decreases the cost of caring for LBW infants, allowing governments to redirect resources to other health services
■ Better thermoregulation, reducing the risk of hypothermia		
■ Improved neurological development (less stress, better sleep, less pain during procedures)		
■ Enhances long-term social and behavioural outcomes		

2.0 Establishing KMC Services

The implementation of Kangaroo Mother Care (KMC) will require facilitation by supportive healthcare authorities at both national and district levels. These include the Directorate of Reproductive and Child Health (DRCH), Directorate of Food and Nutrition (DFN), Directorate of Primary Health Care (DPHC), Directorate of Policy Planning and Information (DPPI), District Health Management Team (DHMT), and community structures.

2.1 Conducting KMC Assessment in Hospitals

It is important to conduct a facility assessment before establishing KMC services. This determines the facility's capacity to provide the service and identifies any gaps for resource mobilisation.

2.2 The implementation of KMC shall be anchored in the six health system building blocks outlined below:

2.2.1 Leadership and Governance

Premature birth and low birth weight are the leading contributors to newborn deaths; therefore, leadership for change is essential at the highest levels of governance.

Long-term vision, political commitment, and functional leadership at all levels are central to the successful implementation of KMC. The recognition and engagement of KMC as a significant newborn health intervention by the health system and political leadership are critical to promoting its uptake in the country and achieving the long-term benefits of effective implementation.

An MOH-led Technical Working Group (TWG) responsible for newborn health shall be established at both national and sub-national levels.

KMC implementation at the facility level shall be led by the facility-in-charge, supported by the Hospital Management Team and Quality Improvement Team. KMC champions should be identified and supported to promote the initiative effectively.

At the community level, KMC shall be championed by Community Health Workers, supervised by Peer Supervisors and Peripheral Health Unit (PHU) In-Charges. KMC champions at the community level should also be identified and supported.

Engaging the Health System and Political Leaders

A long-term vision, political commitment, and leadership at all levels are crucial for the successful implementation of KMC. Recognising KMC as a powerful intervention for improving newborn health is vital for achieving widespread acceptance and long-term benefits.

2.2.2 Healthcare Financing

Healthcare financing is necessary for establishing and maintaining postnatal care units, special care baby units (SCBUs), and KMC wards, including human resource development.

To meet operational costs, KMC budgets should be included in annual work plans at both national and subnational levels. The **Free Healthcare Initiative (FHCI)**, which funds neonatal care, is strongly recommended for sustainable financing of KMC services.

2.2.3 Infrastructure

KMC should be integrated and implemented at all levels of care, including the community.

Primary Health Units (PHUs)

Health centres conducting deliveries and providing **Basic Emergency Obstetric and Neonatal Care (BEmONC)** should establish KMC in a designated area within the postnatal ward. LBW babies with complications or a weight below 1,500g (1.5kg) should be referred to higher-level facilities while keeping the neonate in the KMC position.

Regional/District Hospitals

These facilities should have SCBUs, with designated KMC areas or wards established.

Tertiary-Level Facilities (Teaching Hospitals)

Teaching hospitals should have SCBUs, with KMC services fully integrated. KMC does not require specialised facilities; simple arrangements can be made to make the mother's stay more comfortable. These should include:

Adequate beds, side cupboards, and chairs to accommodate the workload and available space.

Table 2, Suggested Number of KMC Beds at Different Levels of Care

Ward	Tertiary-Level Hospitals	Secondary-Level Hospitals	Primary Facilities (CHC)	Primary Facilities (CHP/MCHP)
■ **KMC**	■ Minimum of 20 beds	■ Minimum of 10 beds	■ At least 3 beds	■ N/A
■ **Postnatal**	■ Minimum of 10 beds	■ Minimum of 5 beds	■ At least 2 beds	■ At least 1 bed
■ **SCBU**	■ Minimum of 10 beds	■ Minimum of 5 beds	■ N/A	■ N/A

2.2.4 Health Workforce for KMC

Kangaroo Mother Care does not require additional staff at healthcare facilities. However, existing staff must receive adequate training in all aspects of KMC.

KMC services should be incorporated into **Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH)** training packages. The core staff complement should include:

- Nurses,
- Clinicians,
- Community Health Officers (CHOs),
- Counsellors,
- Social workers,
- Biomedics,
- Nutritionists.

Capacity Building Requirements

Staff skills and competencies should be continuously updated through KMC training, mentorship, coaching, and supportive supervision. Each health facility should establish a programme for continuing education, including regular reviews of KMC and breastfeeding practices.

Mentorship and supportive supervision should be conducted by KMC champions. Additionally, KMC should be incorporated into **pre-service training curricula** for all health care providers.

2.2.5 Health Management Information Systems (HMIS)

Healthcare providers must ensure accurate data collection and reporting using standardised KMC tools. This data should be utilised to assess performance and plan improvements for KMC services.

3.0 KMC Admission and Discharge Criteria

3.1 Admission Criteria for the Baby

All babies weighing less than 2,500g should be initiated on KMC unless critically unstable (e.g., unable to breathe spontaneously after resuscitation, in shock, requiring mechanical ventilation, or having a congenital malformation that restricts KMC practice).

KMC should be initiated and practised at any level of health facility (tertiary, secondary, and primary) and in any area of the health facility, including the labour room, postnatal wards, and outpatient departments (OPDs).

3.1.1 Eligibility for Admission into KMC by Level of Facility

Tertiary and Secondary/Regional Facilities

- All low birth weight (LBW) babies below 2,500g should be initiated on immediate KMC.
- All babies weighing less than 2,000g in a facility with an SCBU should be admitted to the SCBU, and KMC should be initiated and practised.

Primary Health Units (PHUs)

- If the birth weight is less than 2,000g (low birth weight), initiate immediate KMC and urgently refer the baby to a hospital.
- All stable preterm and LBW babies weighing between 2,000g and 2,500g should be started on immediate KMC.
- Babies discharged home on KMC from tertiary and regional hospitals can be followed up at the PHU by KMC-trained staff.

Community Level

- Community Health Workers (CHWs) should provide home-based follow-up care for preterm and LBW babies discharged from health facilities on KMC.
- CHWs should initiate immediate KMC and refer all preterm and LBW babies delivered at home to a health facility for assessment.
- CHWs should follow up to ensure:
  - The baby is receiving appropriate supplements.
  - The baby is brought for vaccinations when applicable.
  - The baby undergoes scheduled screenings (e.g., hearing and Retinopathy of Prematurity).
  - Follow-up appointments are adhered to.

3.2 Maternal Eligibility Criteria Into KMC

- The mother must be willing to provide KMC.
- She must be available full-time to provide care, or other family members must be available to offer KMC.
- General health: If the mother experienced complications during pregnancy or birth, or is otherwise unwell, she should recover before initiating KMC (a family member can provide KMC during this time).
- Proximity to the baby: The mother should be able to remain in the hospital until the baby is discharged.
- Supportive family: The mother will require support to practise KMC and manage other responsibilities at home.
- Supportive community: This is particularly important when there are social, economic, or familial constraints.

If the mother is a smoker, advise her on the importance of quitting or refraining from smoking in the baby's room. Explain the dangers of passive smoking for the baby, other family members, and herself.

3.3 Initiating KMC

KMC education should begin during the antenatal care (ANC) period, including practical demonstrations of the technique.

After birth, KMC information should be reinforced using standard Information, Education, and Communication (IEC) materials and counselling on:

- The benefits of KMC.
- Personal hygiene.
- Positioning and feeding options.
- Care in the hospital and at home.
- What the mother can and cannot do while the baby is in the KMC position.

Explain and demonstrate the steps of KMC, and ensure the mother practises each step herself. Always explain the importance of each step.

Adopting KMC should be the result of an informed decision. **(Refer to SOP No. 2 on KMC positioning steps).**

Sleeping and Resting in KMC

The mother should sleep with the baby in the kangaroo position, in a reclined or semi-recumbent position (approximately 15 degrees from the horizontal plane). This can be achieved with an adjustable bed, if available, or with several pillows on a standard bed.

This position may decrease the risk of apnoea in the baby. If the mother finds the semi-recumbent position uncomfortable, allow her to sleep in her preferred position, as the benefits of KMC outweigh the risk of apnoea.

Some mothers prefer sleeping on their sides in a semi-reclined bed (as the angle prevents sleeping on the abdomen). If the baby is secured as described, there is no risk of suffocation. (Refer to Section 4 on IEC materials).

3.4 Care of the Baby in the KMC Unit

Infection Prevention

- Wash hands:
  - Before handling the baby.
  - Before and after feeding the baby.
  - Before and after changing nappies.
- After using the toilet.
- Clean or wipe the baby daily (“head to toe”).
- Ensure the baby always wears clean nappies.

- Ensure all cups and feeding utensils are properly cleaned before and after use.
- Restrict access to non-essential personnel/visitors.
- Apply all other standard infection prevention measures.

Cord Care During KMC

Proper cord care is essential to prevent infections, tetanus, and septicaemia.

- Apply 7.1% chlorhexidine digluconate gel to the cord immediately after cutting it and once daily for seven days.
- Sponge bathing the baby until the cord falls off and the umbilicus heals.
- Avoid contact of the cord with urine or stool. If this occurs, clean the cord with soap and water and dry it with a clean cloth.
- Check daily for signs of cord infection until the cord heals. Signs include pus, foul-smelling discharge, redness, or swelling around the umbilicus.
- Start appropriate medical treatment immediately if signs of infection are observed.

Note: A wet cord is not a contraindication for KMC. Reassure mothers that the baby is safe, and that cord healing will proceed normally while practising KMC. Emphasise the importance of personal cleanliness and hygiene to the mother.

Daily Clinical Review

Babies in KMC should be reviewed daily through clinical history-taking, physical examination, and vital signs monitoring.

- Initiate supplements at two weeks or upon achieving full enteral feeds. These include folic acid, iron, and vitamins.
- Conduct screening for Retinopathy of Prematurity (ROP) as per national ROP guidelines, metabolic bone disease of prematurity (using bone biochemistry), and cranial ultrasound if indicated (e.g., for babies born before 32 weeks' gestation or with a birth weight below 1,500g). Refer to appropriate services if these are not available in your facility.

Monitoring of Babies Admitted into the KMC Unit

- Ensure the neonate's airway is clear, and they maintain a pink complexion.
- Monitor vital signs (respiratory rate, pulse rate, temperature) every three hours.
- Record feeds given according to the schedule.
- Monitor growth by taking the baby's daily weight. Aim for a weight gain of **15 to 20g/kg/day** after regaining birth weight. Birth weight is typically regained within 10 to 14 days after birth. If weight gain is inadequate, assess potential causes such as:
    - Insufficient amount or frequency of feeds.

  - Inadequate skin-to-skin contact.
  - Signs of infection.

- Use the KMC daily score sheet to evaluate the baby's progress (refer to KMC Tool No. 4).
- Weekly measure head circumference and length (refer to the Fenton Growth Chart for boys and girls, annexed under tools).

Immunisation

Immunise all babies immediately after birth, according to the National Immunisation Schedule and Guidelines.

Note: Prematurity or low birth weight is not a contraindication for immunisation. Ensure all babies are immunised before discharge, irrespective of their weight.

3.5 Discharge from KMC at the Health Facility

The baby can be discharged from KMC care when the following criteria are met:

Baby Factors

1. Continuous weight gain of at least **15 to 20g/kg/day** for three consecutive days (refer to SOP on weight gain calculation).
2. Birth weight has been regained, and the baby has reached a minimum weight of **1800g** as per Sierra Leone SCBU protocols.
3. The baby can breastfeed and/or feed well by cup.
4. The baby's overall condition is stable (i.e., normal temperature, respiration, feeding, no signs of infection or danger signs, and haemoglobin between 8-10g/dl).
5. The baby has been initiated on supplements (iron, vitamin D, and folic acid).

Maternal Factors

1. The mother accepts the KMC method and is observed to be confident in caring for the baby using KMC (including feeding, bathing, and changing).
2. The mother can breastfeed or express breast milk for feeding.
3. The mother is willing to continue KMC at home.
4. The mother has family support to continue KMC, including a spouse, partner, or close relative familiar with KMC.

Follow-up Factors

1. A health facility with KMC capacity is available and accessible to the mother for follow-up.

2. The mother has the ability to return to a health facility with KMC capacity (either the original discharge facility or the nearest PHU with KMC services) according to the follow-up schedule provided at discharge.

3.6 Readmission Criteria

- A baby should be readmitted to the hospital if:
- The baby gains less than **15g/kg/day** during two consecutive weekly follow-up visits.
- The baby does not gain weight at all.
- The baby loses weight.
- The baby becomes ill, with symptoms such as:
  - Fever or hypothermia
  - Fast or difficult breathing
  - Inability to feed
  - Jaundice
  - Lethargy
  - Dehydration
  - Convulsions
  - Vomiting
- There is no caregiver available to continue providing KMC, and the baby weighs less than 2,000g.

4.0 KMC Nutrition

4.1 Breastfeeding and Its Importance

- Breast milk offers critical immune and nutritional advantages for preterm and low birth weight (LBW) infants and is the recommended feed for these babies.
- Infants who can breastfeed should be put to the breast as soon as possible, ideally within one hour after birth.
- Stable infants who are unable to breastfeed should be fed expressed mother's own milk as soon as it is available.
- Scheduled feeding (every 2–3 hours) is associated with faster weight gain compared to responsive feeding for infants.
- If the mother's own milk is unavailable, alternative options include:
    - Donor human milk.
    - Appropriate infant formula in line with national guidelines on breastfeeding.
- The kangaroo position is ideal for breastfeeding.

All babies on KMC should be exclusively breastfed on demand for the first six months of life, with sustained breastfeeding for two years and beyond. (Refer to SOP No. 3 for signs of good positioning, attachment, effective sucking and how to attach.

4.2 Alternative Feeding Methods

- **Stable babies** unable to suckle effectively should be fed expressed breast milk or formula using a cup, nasogastric (NG) tube, or orogastric (OG) tube. This applies to babies with:
    - Poor rooting, sucking, and swallowing reflexes.
    - No respiratory distress, convulsions, or contraindications to enteral feeding.
- Babies weighing less than **1,500g** should be fed through NG or OG tubes due to their inability to suck effectively or coordinate sucking, swallowing, and breathing.
- To support the development of the sucking reflex:
    - Briefly allow the baby to attempt breastfeeding for brief periods while supplementing with NG or OG feeding.
- Once the baby can suckle effectively and gaining weight, switch to exclusive breastfeeding.
- Ensure availability of feeding supplies (NG tubes, feeding cups) and maintain strict infection control measures.

- Before each feed, teach the mother to check the NG/OG tube placement by verifying the insertion marking.

(Refer to SOP No. 4 for cup feeding and SOP No. 5 for NG/OG tube insertion and feeding techniques.)

4.3 Expressing Breast Milk

- Mothers should be shown proper techniques for expressing breast milk. Encourage them to fully empty the breast to maintain an adequate milk supply.
- (Refer to SOP No. 6 for guidance on expressing breast milk.)

4.4 Human Milk Fortification

- Routine fortification of human milk is **not recommended** for all preterm or LBW infants.
- Fortification may be considered for very preterm infants (<32 weeks' gestation) or very LBW infants (<1,500g) who are fed their mother's breast milk or donor milk.

4.5 Use of Infant Formula

- Mothers should be encouraged and supported to provide their own milk to their infants.
- If mother's own milk or donor human milk is unavailable, **nutrient-enriched preterm formula** may be considered for very preterm (<32 weeks' gestation) or very LBW infants.

4.6 Feeding for HIV-Exposed Babies

- HIV-positive mothers should be encouraged and supported to **exclusively breastfeed** for the first six months of life.
- Introduce appropriate complementary foods at six months while continuing breastfeeding up to 24 months or beyond.
- Breastfeeding women living with HIV should adhere to optimal antiretroviral therapy (ART) regimens to achieve viral suppression, reducing the risk of vertical HIV transmission through breastfeeding.
- HIV-exposed infants should receive antiretroviral (ARV) prophylaxis:
  - AZT and NVP for six weeks.
  - NVP should continue for six weeks post-cessation of breastfeeding.

- Infant prophylaxis can be discontinued after a minimum of 12 weeks on NVP if the child is no longer breastfeeding (death of mother or separation from mother).

4.6 Quantity and Frequency of Feeds:

- The frequency of feeding depends on the amount of milk the baby can tolerate and the daily required intake.
- Feed calculations should align with Sierra Leone's updated Standard Operating Procedures (SOPs).

Weight Loss and Gain Expectations:

- Expect an initial weight loss of 5–15% of birth weight during the first week of life.
- Birth weight should be regained within 10–14 days. (Refer to SOP No. 7 for calculating weight loss.)

Growth Monitoring:

- Target a daily weight gain of **15 to 20g/kg/day**. (Refer to SOP No. 8 for weight gain calculations.)
- If weight gain is poor, assess possible causes, including:
  - Inadequate amount or frequency of feeds.
  - Inadequate skin-to-skin contact.
  - Anaemia.
  - Infections.

- Monitor IV fluids (IVF) and expressed breast milk (EBM) intake using fluid and feeding charts. Ensure there are no unexplained deficits that could lead to dehydration or failure to gain weight. (Refer to SOP No. 9 for IV fluid and feed tables.)

5.0 Physical and Emotional Support for KMC

To achieve the national target of **80% KMC coverage by 2030,** the engagement of key stakeholders—**Health system leaders, political leaders, mothers, family members, and the community**—is essential.

5.1 Support from Health Care Providers (Facility)

Health care providers play a critical role in supporting the mother and ensuring the success of KMC. Below are the key responsibilities and interventions:

1. **Confirm Maternal Health**
    - Ensure the mother is in stable health before initiating KMC.
2. **KMC Knowledge & Competency**
    - Health care providers should be regularly updated on the **knowledge, skills, and competencies** required to support KMC effectively.
3. **Explanation and Demonstrationv of KMC**
    - **Explain** the concept of KMC to the mother.
    - **Demonstrate** the proper positioning and technique for KMC.
4. **Benefits of KMC**
    - Explain the health and developmental benefits of KMC to the mother and family.
5. **Engage Family Members**
    - Integrate the involvement of **family members**, such as fathers, grandparents, and aunts, depending on the cultural setup.
6. **Support Lactation**
    - Assist the mother in maintaining lactation throughout the breastfeeding period, providing guidance on **milk supply stimulation**.
7. **Problem-Solving**
    - Address any challenges related to **positioning, attachment, frequency of feeding**, and general care of the newborn.
8. **Daily Communication**
    - Conduct daily check-ins with the mother to discuss and address any problems or concerns.
9. **Encourage KMC Continuation**

- Consistently encourage the mother to continue KMC and provide emotional and practical support.

10. **Promote Open Communication**
    - Encourage the mother and family to express concerns and ask questions regarding KMC.

11. **Health Education & Community Sensitisation**
    - Provide health education messages to raise awareness about KMC within families and the broader community.
    - **Promote behaviour change** and foster demand for KMC as a norm for LBW babies.

12. **Role Models and Peer Support**
    - Facilitate the identification of **role models** within the community who have successfully practiced KMC.
    - Create opportunities for **peer support** within the facility, where mothers implementing KMC can encourage others.

13. **Support Groups & Peer Pairing**
    - Encourage the formation of **KMC support groups** for mothers.
    - Facilitate **mother-to-mother pairing** to offer peer support, allowing mothers to exchange experiences during clinic appointments.

5.2 Support from Family Members

The involvement of family members is vital in ensuring the success of KMC. Family members are encouraged to:

1. **Provide Physical and Emotional Support**

Assist with KMC at home or in the KMC unit, especially to allow the mother to rest.

Support the mother emotionally, ensuring she is not overwhelmed by stress.

2. **Ensure Adequate Nutrition**

Ensure that the mother is receiving enough nutrition to maintain her health and support breastfeeding.

3. **Assist with Household Responsibilities**

Provide support with housework, care for other children, and cooking to allow the mother to focus on the baby.

4. **Promote Healthy Practices**

Help the mother refrain from unhealthy practices such as **child neglect** or **substance abuse**.

5. **Provide Recreational and Income-Generating Support**

Support the mother by facilitating opportunities for **recreational, educational**, and **income-generating activities** as needed.

5.3 Support from the Community

Community involvement is crucial in sustaining the practice of KMC and creating a supportive environment. Key actions include:

1. **Testimonies from Families**

Share **testimonies** from mothers, fathers, or relatives who have successfully used KMC to care for LBW/preterm babies.

2. **Celebrating KMC Successes**

Hold **celebrations** at health facilities or within communities to mark the graduation of a LBW/preterm baby from KMC.

3. **Awareness Campaigns**

Raise awareness about KMC during **International Breastfeeding Week**, **World Prematurity Day**, and **International KMC Awareness Day** (May 15).

4. **Formation of KMC Support Groups**

Establish **community-based KMC support groups** for ongoing peer support.

5. **Public Discussions and Media Engagement**

Organize **radio shows** and public forums to discuss the importance of KMC, addressing its relevance in the context of LBW/preterm care.

6. **Engage Key Community Leaders**

Involve **religious leaders**, **community health workers (CHWs)**, and **facility management committees (FMCs)** in spreading awareness and supporting KMC.

5.4 Male Involvement in Supporting KMC

The involvement of fathers and male family members is crucial for both **practical and emotional support**. Key points for male involvement include:

1. **Active Participation in KMC**

Fathers and male relatives should be actively involved in providing KMC while in the facility and at home after discharge, when the mother is medically unstable or recovering from surgery.

2. **Pre-conception to Post-delivery Involvement**

Fathers should be included in care starting from the **pre-conception period**, through **antenatal care**, during **delivery**, and into the **postpartum period**.

3. **Support During Preterm Births**

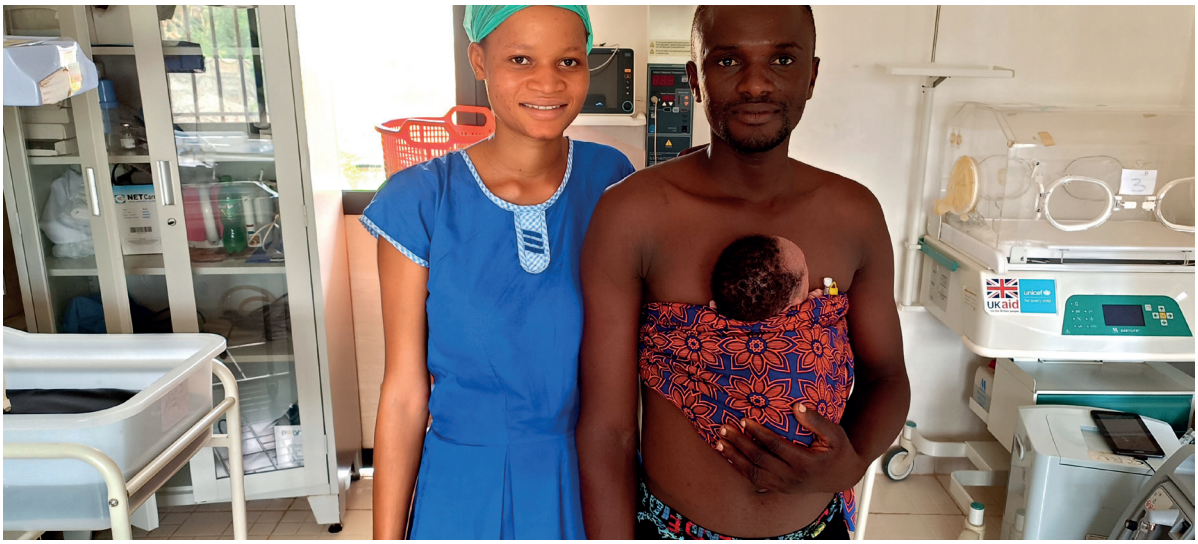
During preterm deliveries, fathers should be **counseled** to prepare for the birth of a preterm baby and to provide supportive care afterward.

4. **Encourage Male Bonding**

Advocate for **father-child bonding** through KMC, which strengthens family relationships and improves the father's role in child-rearing.

5. **Empowerment Through KMC**

Involving fathers in KMC can empower them, improve their bonding with the baby, and fulfill their role as essential caregivers in the family.



6.0 Follow-Up For KMC Babies

Follow-up for the mother and baby should be at the facility of discharge or at the nearest health facility to which the baby has been referred. If the baby is discharged in accordance with the discharge criteria, the following should be considered.

6.1 KMC Follow-up at the Facility

When setting up KMC services, it is important for healthcare providers to ensure the following standards are in place for the follow-up of preterm/LBW babies. These facilities should have the following characteristics:

- The actual location of the facility should be well known.
- They should be managed by staff who are competent in the care of preterm babies.
- Individual patient records should be available.
- Registers and booking diaries should be maintained; a reminder system and a defaulter tracing mechanism should be in place.
- The facility should have links with other complementary services (laboratory, counselling, nutrition, and postnatal care, with community support groups).

In this regard, it is important to build on existing structures such as the **Paediatric Outpatient Clinic (POPC)**, **Neonatal Outpatient Clinic (NOPC)**, or the **Under-Fives Clinic**. These clinics are traditionally well-known components of Sierra Leone's health services for children who need long-term follow-up and can be improved to meet the requirements outlined in this guideline.

After Discharge from the Facility

- A baby who has attained a birth weight of 1800g and is stable continues KMC at home.
- While at home, the **Community Health Worker (CHW)** continues with routine/ essential newborn care follow-up.
- The baby is followed up at the discharging facility or the nearest health facility or outreach points that offer KMC every two weeks while on KMC until the baby reaches 2500g.
- All hospitals and PHUs should have trained healthcare providers who are regularly updated and sensitised on current KMC practices.
- Babies with a weight gain of less than 15g/kg/day after two consecutive visits should be readmitted to a KMC unit.
- KMC should be discontinued once the baby attains a weight of 2500g or the baby fuses out of the KMC position.
- The baby on KMC at home should be seen at the **POPC/NOPC** on a weekly basis until discharged from KMC (at 2500g), then monthly up to the age of 24 months.

- A referral slip is given to the relative to submit to the nearest government facility to enhance continuity of care using the life stages model.

6.2 Care During a Follow-up Visit (at the Health Facility)

Refer to **SOP No. 10** for the steps during follow-up.

6.3 KMC Follow-up with the Community Health Workers

- For babies still being followed up at a health facility, a **CHW** should visit the baby a day after the scheduled follow-up at home and confirm the visit at the health facility.
- The CHW is required to conduct more frequent household visits for a preterm baby than for a normal-term baby, providing neonatal minimum care, supplements, and honouring follow-up visits.

7.0 Call for Action for Scaling Up KMC

7.1 National Governments (Ministries of Health, Finance, and Other MDAs)

- Recognise and commit to scaling up KMC in facilities and communities.
- Include KMC as part of national policies, guidelines, and budgets for small and/or sick newborn care within broader maternal, newborn, and child health programming.
- The costs of implementing KMC as the foundation of small and/or sick newborn care should be integrated into national plans for universal health coverage.
- Prioritise small and/or sick newborn care with KMC as the foundation through regulatory and legislative reforms (e.g., policies on zero fees for services).
- Establish a small and/or sick newborn care unit in every district with a conducive environment for family-centred care and KMC at its core by redesigning or adapting the healthcare facility infrastructure to enable the mother and newborn to remain together from birth and receive the care they need together as a unit in one place.
- Include KMC indicators in routine health management information systems, Demographic Health Surveillance, and/or Multiple Indicator Cluster Surveys to monitor coverage and quality on an ongoing basis to inform corrective actions.

7.2 Professional Associations (SLPA, SLOG, SLMA, SLNA, PSSL)

- Lead by example through demonstration of change in practice.
- Accept, endorse, and implement a policy whereby all barriers are removed, and mothers and newborns are enabled to remain together from birth, even when newborns are small and/or sick, and they are cared for together as a unit. Provide KMC as the standard of care for all preterm or LBW newborns and their mothers in both public and private sectors.
- Establish and sustain close inter-disciplinary collaboration between maternal and newborn or paediatric care organisations.
- Develop joint guidance and protocols for combined maternal–newborn care, organise joint learning and training sessions for healthcare providers, and engage in regular knowledge-sharing, cross-learning, and advocacy efforts.
- Encourage health workers to follow all preterm or LBW infants for at least the first year after birth and ensure adequate follow-up care for improved growth and development and reduced infant mortality and morbidity.

7.3 Parents, Parent Organisations, and KMC Champions

- Educate families and communities to recognise and value KMC as a basic patient right, and to demand that the mother and infant are enabled to remain together from birth and receive the care they need together in one place at all times.

- Encourage fathers or partners and families to empower and support mothers in providing KMC inside the healthcare facility and at home after discharge.
- Actively engage with the various health system actors to emphasise the importance of family involvement and support in the routine care of preterm or LBW infants in healthcare facilities and provide constructive feedback for quality improvement.
- Help sensitize or counsel on harmful cultural myths and misconceptions around preterm birth and KMC.

7.4 Multilateral and Bilateral Development Partners

- Partners, individuals, local NGOs, religious groups, together with governments, should make deliberate efforts to provide assistance (foods and non-food items, consumables, beds, among others) and promote private sector investments.

7.5 Donor Organisations

- Provide funding for implementation research to develop context-specific models wherein mothers and newborns can remain together starting from birth and receive the care they need together as a unit in one place.
- Support integrated maternal–newborn care at the national level and the establishment of new or enhanced special or intensive care units for combined maternal–newborn care.

7.6 Academia

- Promote continued learning through research and documentation of experiences with KMC implementation.
- Conduct cost-benefit analysis on the importance of KMC in Sierra Leone and undertake an annual experience of care assessment on KMC.
- Conduct operational research on KMC implementation in Sierra Leone.

7.7 Private Sector

- Acknowledge and practice keeping the mother and newborn together after birth with combined care in one place, and KMC as the standard of care.
- Create awareness of the benefits of KMC among parents and families to help them see KMC as an integral aspect of the provision of high-quality newborn care.

7.8 Roles and Responsibilities for the Scale-up of KMC

7.8.1 National Level - DRMNCAH+N

- Provide leadership, planning, and coordination of KMC services in the country.

- Develop and disseminate national KMC guidelines.
- Capacity building of healthcare workers.
- Resource mobilisation for KMC services.
- Advocacy and social mobilisation for KMC.
- Develop standards and protocols to oversee coordination, training, and monitoring of KMC activities.
- Create partnerships between the government and various stakeholders to support local KMC implementation efforts.
- Ensure KMC is incorporated in pre-service education curriculum and in-service training of healthcare providers.
- Receive and analyse KMC status reports from the districts and provide feedback.
- Make a national report on the status of KMC services from the collated reports from the districts and share with stakeholders concerned.
- Conduct studies and research on KMC.
- Use data to analyse gaps and make continuous quality improvements in KMC services in the country.

7.8.2 District Level (DHMT/HMT)

- Incorporate KMC into child health TWG at the district level.
- Conduct district situation analysis of KMC services.
- Adopt and disseminate KMC guidelines in the district.
- Advocate for the inclusion of KMC as part of routine weekly child reporting.
- Resource mobilisation for KMC.
- Conduct studies and research on KMC.
- Allocate a yearly budget in the Annual Work Plan for improving KMC infrastructure, training, and staff motivation.
- Identify a district KMC Champion.
- Facilitate implementation and scale-up of KMC services in the district.
- Monitor and evaluate KMC activities in the district.
- Offer mentorship and support supervision for KMC services in facilities.
- Support implementation and scale-up of KMC services in district hospitals and PHUs.
- Monitor and evaluate KMC services in the facilities.
- Identify a KMC facility champion.
- Submit a report on the status of KMC services to the district focal person of KMC/ child coordinator services in the district to the Ministry of Health.

7.8.3 Facility Level

- Implement and scale-up KMC services in the facility as per guidelines.
- Promote, practise, and advocate for KMC as a standard of care for low birth weight and premature newborns at all levels.
- Identify a KMC Champion in the facility.
- Counsel and demonstrate KMC to the mother/surrogate throughout their hospital stay and ensure that mothers are confident to continue KMC at home.
- Offer peer-to-peer mentorship on KMC.
- Ensure accurate documentation of KMC data at the point of service.
- Submit KMC data to the district monthly.
- Act as a linkage between the facility and the community.
- Use collected data to identify gaps and formulate quality improvement action plans in the facility.
- Supervise KMC services at the community level.

7.8.4 Community Level (CHW/Community KMC Champion)

- Support families to continue offering KMC at home post-discharge.
- Ensure that families offering KMC attend scheduled hospital visits.
- Ensure early identification and immediate referral of small and sick newborns to the health facilities.
- Conduct frequent household visits to reinforce KMC messages and practice.
- Trace neonates lost to follow-up and link them back to the facility.
- Identify champions in the community and work with relevant stakeholders to form KMC support groups.

8.0 Monitoring and Evaluation

A monitoring and evaluation plan is designed to continuously monitor implementation practices against the standards in the National guidelines and targets. Recording KMC practices using specific indicators will be part of Sierra Leone's Health Information System, which is vital for tracking and improving the coverage and quality of KMC practices. What gets measured, gets done.

Table 3, Key Indicators for Monitoring Kangaroo Mother Care (KMC) Services

Indicator	Indicator Classification	Numerator	Denominator	Data Source
■ Proportion of neonates that received KMC services and died disaggregated by birth weight (<1000g, 1000 - <1500g, 1500 – <2000g, 2000 – <2500g)	■ Outcome	■ Number of neonatal deaths that received KMC services per weight category	■ Total number of neonates who received KMC per weight category	■ Delivery Register, Facility KMC and Newborn Registers, SLHIS, Monthly Summary Form.
■ Proportion of neonates that received KMC services and died disaggregated by birth weight (<1000g, 1000 - <1500g, 1500 – <2000g, 2000 – <2500g)	■ Outcome	■ Number of neonatal deaths that received KMC services per weight category	■ Total number of neonates who received KMC per weight category	■ Delivery Register, Facility KMC and Newborn Registers, SLHIS, Monthly Summary Form.
■ Percentage of newborns weighing less than 2500g initiated on KMC in the facility	■ Process/ output	■ Number of infants weighing less than 2500g initiated on KMC in the facility	■ Total number of infants weighing less than 2500g in the health facility during the reporting period	■ KMC Register, Delivery Register, SCBU Register, Postnatal Register, Monthly Summary Forms (Monthly Reporting)

Indicator	Indicator Classification	Numerator	Denominator	Data Source
■ Percentage of preterm and LBW newborns who received KMC and were discharged	■ Process	■ Number of preterm/LBW who received KMC services and were discharged	■ Total number of preterm/ LBW initiated on KMC	■ Newborn and KMC Register, Monthly Reporting
■ Percentage of preterm and LBW newborns who are followed up at least once after discharge from the KMC unit	■ Process	■ Number of preterm/LBW newborns who are followed up at least once after discharge from the KMC unit	■ Total number of preterm/ LBW discharged from the KMC unit	■ Newborn and KMC Register, Monthly Reporting

8.1 Monitoring and Evaluation Tools

KMC indicators will be collected from a variety of M&E tools, including:

- Database of health providers trained in KMC
- KMC register
- SCBU register
- Mother and neonate register
- Delivery (Birth) register
- HMIS monthly summary forms (HF3)
- DHIS 2
- WHO Fenton preterm growth charts for girls
- WHO Fenton preterm growth charts for boys
- Daily KMC score sheet
- KMC Health Facility Assessment tool for assessment and surveys
- After-discharge follow-up tools

Section - 2: KMC Tools

A. Sierra Leone KMC Facility Assessment Tool

National Quality Management Programme, RCH Directorate - Ministry of Health - Sierra Leone

Kangaroo Mother Care: Quality of Care Facility Assessment Tool

Note: This checklist covers only selected items related to KMC and basic care of small babies.

How to use this tool:

- Talk to the matron/medical superintendent of the hospital.
- Talk to the maternity in-charge, SCBU in-charge, or a clinician.
- Review the registers and forms.
- Interview at least 3 mothers.
- Conduct a physical assessment.

Facility Details

- Name of Health Facility/Hospital: _____
- Level of Facility: _____(Tertiary, Regional, District, PHU)_____
- District: _____
- Date KMC Assessment Conducted: _____
- Facility's Telephone Number: _____
- Name and Contact of the Facility M/S: _____
- Name and Contact of the Facility Matron: _____
- Names of Assessors: _____

Names of Informants	Designation	Phone No

Questions to the Hospital Management Team

(Medical Superintendent or Matron/Deputy Matron)

- Is this facility BFHI accredited?

☐ Yes ☐ No

- If yes, when was it BFHI accredited?

- Have the facility managers ever been trained in KMC?

M/S: ☐ Yes ☐ No

If yes, when? _____

Matron: ☐ Yes ☐ No
If yes, when? _____

Deputy Matron: ☐ Yes ☐ No
If yes, when? _____

Others (Specify): _____

- Have the facility managers ever been trained in breastfeeding?

M/S: ☐ Yes ☐ No

If yes, when? _____

Matron: ☐ Yes ☐ No
If yes, when? _____

Deputy Matron:

☐ Yes ☐ No
If yes, when? _____

Others (Specify): _____

- Is there a training database available?

☐ Yes ☐ No

If yes, check for KMC and breastfeeding/Infant and Young Child Feeding. _____

- Is there a visible Maternal and Neonatal Health mission and vision openly displayed at the entrance of the maternal newborn unit?

☐ Yes ☐ No

- If available, is KMC included as a component of the Maternal and Neonatal Health mission and vision?

☐ Yes ☐ No

If yes, take photo.

Burden of Disease

Total Deliveries in the Last 3 Months (Dec 2023 – Feb 2024)

- Total number of deliveries in the facility (Physical count in the delivery register in L/W):
- Total number of preterm babies born (<37 completed weeks):
- Total number of low birth weight (LBW) babies born (<2500g) – Physical count in L/W register:
  - 2000 – 2499g: _____
  - 1500 – 1999g: _____
  - 1000 – 1499g: _____
  - <1000g: _____

Inborn Admissions (Dec 2023 – Feb 2024, physical count in SCBU)

- Total number of preterm babies admitted (<37 completed weeks):
- Total number of LBW babies admitted to SCBU (<2500g):
  - 2000–2499g: _____
  - 1500–1999g: _____
  - 1000–1499g: _____
  - <1000g: _____
- Total number of neonatal deaths (0–28 days) due to prematurity (<37 weeks):
- Neonatal deaths (0–28 days) due to LBW (<2500g):
  - 2000–2499g: _____
  - 1500–1999g: _____
  - 1000–1499g: _____
  - <1000g: _____

Outborn Admissions (Dec 2023 – Feb 2024, physical count in SCBU)

- Total number of preterm babies admitted (<37 completed weeks):
- Total number of LBW babies admitted (<2500g):
  - 2000–2499g: _____
  - 1500–1999g: _____
  - 1000–1499g: _____
  - <1000g: _____
  - Neonatal deaths (0–28 days) due to prematurity (<37 weeks):
- Neonatal deaths (0–28 days) due to LBW (<2500g):
  - 2000–2499g: _____
  - 1500–1999g: _____
  - 1000–1499g: _____
  - <1000g: _____

For the following sections, please indicate Yes or No and comment as appropriate based on your observation.

6. Element/Item: In the SCBU	Yes	No	Comments
Electricity	☐	☐	
Back up electricity system	☐	☐	

Apart from the SCBU and KMC unit, where else are preterm and low birth weight babies admitted?

- Postnatal wards: ☐Yes ☐No
- Others (Specify): _____

Types of KMC Practised in This Hospital (Tick all that apply)

☐ No KMC

☐ Intermittent (5 to 8 times a day lasting 60–90 mins)

☐ Continuous (continuously for 18–21hours)

☐ Both intermittent and continuous

If KMC present, when was it started? _____

For Continuous KMC (Indicate Yes or No where applicable)

Availability of a dedicated room for KMC			
Items	**Yes**	**No**	**Comments**
Number of KMC beds available with pillows /head rest	☐	☐	
Basic furniture available per bed	☐	☐	
Chairs	☐	☐	
Stools	☐	☐	
Cupboard /bedside lockers	☐	☐	
Facilities for expressing breastmilk.	☐	☐	
Private space	☐	☐	
Comfortable chair	☐	☐	
Stool	☐	☐	
Facilities for milk storage	☐	☐	
Cupboard	☐	☐	
Fridge	☐	☐	
Running water and soap for hand washing	☐	☐	
Availability of alcohol-based hand rub	☐	☐	
Functional toilets and bathrooms within the unit	☐	☐	
Functional Windows and doors that can be appropriately closed	☐	☐	
Walls well painted	☐	☐	

Decorated with KMC photos or KMC information posters	☐	☐
Adequate light	☐	☐
Recreation facilities	☐	☐
Functional TV screens	☐	☐
Functional Radio	☐	☐
Is there availability of:	☐	☐
KMC videos	☐	☐
KMC health messages	☐	☐
KMC Brochures/leaflets	☐	☐

C. Availability of Functional Equipment and Supplies in the KMC / SCBU Unit				
Items	**Yes**	**No**	**Number**	**Comments**
Functional Digital/electronic baby weighing scales (10g intervals)	☐	☐		
Feeding tubes –	☐	☐		
FG 5	☐	☐		
FG 6	☐	☐		
FG 8	☐	☐		
Feeding cups – clear, calibrated cups:				
10ml	☐	☐		
20ml	☐	☐		
OR Syringes (ml):	☐	☐		
- 5 ml	☐	☐		
- 10 ml	☐	☐		
- 20 ml	☐	☐		
Functional pulse oximeters (for oxygen saturation monitoring)	☐	☐		
Digital thermometers	☐	☐		
Wall thermometer	☐	☐		
Oxygen source	☐	☐		
Oxygen flow meters (paediatric)	☐	☐		
Neonatal nasal prongs	☐	☐		
Functional penguin sucker	☐	☐		
Functional Bag-valve-mask device				
250- 300 ml bag	☐	☐		
Mask size 0 for preterm	☐	☐		

Mask size 1 for term babies	☐	☐		

D. Availability of Medicines Specific to Preterm Babies				
Items	**Yes**	**No**	**Number**	**Comments**
Multivitamin drops (Vitamin D composition)	☐	☐		
Iron (newborn friendly formulation)	☐	☐		
Folic acid	☐	☐		
Aminophylline	☐	☐		
Caffeine citrate	☐	☐		

Infection Prevention			
Items	**Yes**	**No**	**Comments**
Does the KMC/SCBU unit have infection prevention supplies?	☐	☐	
Liquid soap	☐	☐	
Alcohol-based hand rub	☐	☐	
Sharps container	☐	☐	
Chlorine	☐	☐	
Detergents / enzymatic solution	☐	☐	
Mops specific to SCBU/KMC	☐	☐	
Colour-coded bins / plastics	☐	☐	
Aprons	☐	☐	
Caps	☐	☐	
Special shoes / shoe covers	☐	☐	
Cleaning Personnel and Frequency	☐	☐	
Are there dedicated cleaners for the KMC unit?	☐	☐	
How often is the KMC unit cleaned per day? ☐ Once ☐ Twice Other (specify) _____			
Job Aids on Infection Prevention and Control (Tick all that apply) ☐ Handwashing guide / steps ☐ WHO 5 Moments for Hand Hygiene ☐ Waste segregation guide ☐ Puncture-proof sharps boxes / containers ☐ Decontamination process ☐ Other (specify): _____			

Healthcare Worker Interview Questions – KMC Facility Assessment Please ask the healthcare workers at the unit the following questions. Record responses clearly and attach supporting documentation where applicable.	
1. KMC Practice and Documentation	
Question	**Response / Notes**
How many babies have been initiated on continuous KMC in the last three months? (Check documentation / records)	
Number of mothers with babies in the KMC unit at the time of assessment (Head count)	
Number of mothers currently holding babies in KMC position at the time of assessment	
On average, how many hours per day are babies placed in KMC position?	
2. If No Mother or Baby is in KMC at the Time of Assessment	
Question	**Response / Notes**
Are KMC records available? ☐ Yes ☐ No If yes, what information is recorded?	
3. Decision-Making and Eligibility Criteria	
Who decides when a baby is ready for continuous KMC? (Tick all that apply) ☐ Doctors ☐ CHOs (Community Health Officers) ☐ Nurses ☐ Mother's request	
What eligibility criteria are used to decide if a baby can start continuous KMC? (Tick all that apply) ☐ Baby should be stable ☐ Baby off oxygen ☐ Baby breathing normally (no respiratory distress) ☐ Baby off IV lines ☐ Baby's heartbeat is stable ☐ Baby is feeding well ☐ Baby has reached a certain weight (specify): _____ ☐ Baby has reached a certain gestational age (specify): _____ ☐ Other (specify, e.g. no fever, no apnoea): _____	
Is the eligibility criteria available in writing? ☐ Yes ☐ No	

4. Exemptions from KMC

Which babies are exempted from practising KMC? (Tick all that apply)

☐ None

☐ HIV-positive mothers

☐ Mothers with another infectious disease

☐ Babies below a certain weight (specify): _____

☐ Babies above a certain weight (specify): _____

☐ BBA (Born Before Arrival)

☐ Babies with congenital anomalies

☐ Other (specify): _____

5. Staffing and Support

Question	Response / Notes
Is there a staff member specifically allocated to care for babies in the KMC room? ☐ Yes ☐ No	
If no, how is sufficient supervision for KMC babies ensured?	

6. Support for Mothers – Intermittent KMC in SCBU

Question	Response / Notes
Are mothers allowed to have a guardian or companion to assist with KMC? ☐ Yes ☐ No	

SCBU – Intermittent KMC Assessment	
1. Equipment and Practice	
Question	**Response / Notes**
How many functional incubators are available in the SCBU?	
Is there sharing of incubators at the time of assessment? ☐ Yes ☐ No	
Is intermittent KMC practised in the SCBU? ☐ Yes ☐ No ☐ Sometimes	
If yes or sometimes, what is the eligibility criteria? Who decides when a baby is ready for intermittent KMC? (Tick all that apply) ☐ Doctors ☐ CHOs (Community Health Officers) ☐ Nurses ☐ Mothers request	
2. Duration, Records, and Observation	
Question	**Response / Notes**
How long does intermittent KMC last per session? (in minutes or hours)	
Are records of intermittent KMC available? (Check records, take a photo if allowed) ☐ Yes ☐ No	
Number of preterm / low birth weight babies currently in SCBU ☐ Yes ☐ No ☐ Sometimes	
Number of babies currently receiving intermittent KMC: ■ Observed (Headcount) ■ Verified from records ■ Verified from mothers Number of babies on intermittent KMC in the last 3 months (Check records)	
3. Mother's Environment During Intermittent KMC	
Where do mothers sit while practising intermittent KMC? (Tick all that apply) ☐ By the incubator ☐ By the cot ☐ In the breastfeeding room ☐ In a special room ☐ Other (specify): _____	

4. KMC Positioning

How are babies secured in the KMC position? (Tick one)

☐ Not tied

☐ Using lappa / local cloth

☐ Thari

5. Guidelines and Job Aids

Items	Yes	No	Comments
Does the facility have Kangaroo Mother Care implementation guidelines?	☐	☐	
Does the facility have guidelines for the management of preterm / low birth weight babies, including feeding?	☐	☐	
Job aid available on Kangaroo Mother Care positioning?	☐	☐	
Job aid available for feeding (e.g. volume/ frequency table)?	☐	☐	

Monitoring and Feeding Practices – Healthcare Worker Interview Please ask the healthcare workers the following questions and verify documentation where applicable.				
1. Monitoring and Charting of Vital Signs (Every 4 Hours)	**Monitored?**		**Charted 4-Hourly?**	
Vital Sign	☐ Yes	☐ No	☐ Yes	☐ No
Temperature	☐ Yes	☐ No	☐ Yes	☐ No
Respiration rate	☐ Yes	☐ No	☐ Yes	☐ No
Pulse rate	☐ Yes	☐ No	☐ Yes	☐ No
Oxygen saturation	☐ Yes	☐ No	☐ Yes	☐ No

2. Feeding and Weight Monitoring	
Question	**Response / Notes**
What happens if mothers are unable to come for feeds?	
Are feeding records available in the SCBU/KMC area? ☐ Yes ☐ No	
Is there a place in the hospital where mothers can stay while their babies are in SCBU/KMC? ☐ Yes ☐ No	
Are there regular records of each feed for each baby? (Take a photo if permitted) ☐ Yes ☐ No	
Are all babies weighed? ☐ Yes ☐ No	
If yes, how often are babies weighed? (Tick one) ☐ Once every day ☐ Alternate days ☐ Weekly	

Section: Documentation and Reporting

1. Types of Records Used for KMC Documentation

What types of general records are currently used to document KMC information?

(Confirm and tick all that apply)

☐ No KMC information is recorded

☐ Doctor's notes

☐ SCBU register

☐ Nurse's notes

☐ KMC register

☐ Under-five cards

☐ Neonatal file

☐ Other (specify): _____

2. Availability and Use of KMC Data

Question	Yes	No	Comments (if any)
Can figures be calculated on how many babies received KMC during a particular period?	☐	☐	
Can audit data/statistics for at least one year be provided to show sustained KMC practice? (e.g. number of babies through KMC, breakdown by LBW category, average discharge weight, number of days in hospital, survival rate)	☐	☐	
Are there official reporting channels for KMC to the Matron or Medical Superintendent (MS)?	☐	☐	
Are KMC statistics visibly displayed within the facility? (e.g. on a wall/noticeboard)	☐	☐	

Staffing in SCBU and Targeted Training

- Number of doctors in SCBU
  - Number trained in KMC (5-day training)
  - Number trained in breastfeeding/IYCF
  - Number trained in the safe use of oxygen
- Number of CHOs / Physician Assistants in SCBU
  - Number trained in KMC (5-day training)
  - Number trained in breastfeeding/IYCF
  - Number trained in the safe use of oxygen
- Number of nurses (all cadres) in SCBU
  - Number trained in KMC (5-day training)
  - Number trained in breastfeeding/IYCF
  - Number trained in the safe use of oxygen
- Number of maternity / labour ward nurses
  - Number trained in KMC (5-day training)
  - Number trained in breastfeeding/IYCF
  - Number trained in the safe use of oxygen
- Number of post-natal nurses
  - Number trained in KMC (5-day training)
  - Number trained in breastfeeding/IYCF
  - Number trained in the safe use of oxygen
- Number of nutritionists attached to SCBU
  - Number trained in KMC (5-day training)
  - Number trained in breastfeeding/IYCF

Referrals, Discharge, and Follow-up

- Who decides when a baby is ready for discharge from KMC?

(Tick all that apply)

☐ Doctors

☐ CHOs

☐ Nurses

☐ Mother's request

■ What criteria are used to decide if a baby is ready for discharge?

(Tick all that apply)

☐ Baby has reached a certain weight (Specify): _____

☐ Baby gains weight consistently (Specify): _____

☐ Mother is willing to continue KMC at home (Specify): _____

☐ Other (Specify): _____

■ Are babies transported to this hospital in skin-to-skin (KMC) position?

☐ Always

☐ Sometimes

☐ Never

☐ Don't know

■ Are babies transported from your hospital to another hospital in skin-to-skin (KMC) position?

☐ Always

☐ Sometimes

☐ Never

☐ Don't know

■ Are preterm / LBW babies followed up after discharge?

☐ Yes

☐ No

■ If yes, where are follow-ups conducted?

(Tick all that apply)

☐ Hospital where baby was born (KMC room, SCBU, Maternity, NOPC, GOPD)

☐ Hospital nearest the mother's home

☐ Other (Specify): _____

■ Are records kept of follow-up visits?

☐ Yes

☐ No

If yes, please see records (take a photo)

■ Are home visits conducted?

☐ Yes

☐ No

If yes, who conducts the home visits?

(Tick all that apply)

☐ Nurses

☐ Community health worker

☐ CHOs

☐ Other (Specify): _____

Support

- Is there any KMC support you are receiving from:

(Tick Yes or No for each)

☐ Yes

☐ No

- National MoH:

☐ Yes

☐ No

- Partners:

☐ Yes

☐ No

- Facility management:

☐ Yes

☐ No

- Other (Specify):_____

If yes, name the kind of support received: _____

Strengths and Challenges

- Enablers to KMC implementation:

(Let the informant describe as you write)

- Barriers / challenges to KMC implementation:

(Let the informant describe as you write)

Exit Questions
Ask the mothers the following questions: Did you receive any information on KMC at any time? If yes, from whom? (Tick all that she mentions) ☐ Nurse ☐ Doctor ☐ CHO ☐ Nutritionist ☐ Others (specify)_____
If yes, where did you get your KMC education from? ☐ ANC ☐ PNC ☐ SCBU ☐ KMC Unit ☐ Others (specify) _____ What information were you told about KMC? (Write all that the mother mentions)
Was your baby born in or out of this hospital? ☐ In ☐ Out If out, how did you or your guardian carry your baby when the baby was transported to this hospital?
What have you been taught about taking care of your small baby at home? ☐ Yes ☐ No
Does the hospital provide food to you (mothers)? ☐ Yes ☐ No
If yes, how many times? ○ Breakfast ☐ Yes ☐ No ○ Lunch ☐ Yes ☐ No ○ Dinner ☐ Yes ☐ No Mention any neonatal danger signs that you know: (Write what the mother says) [Thank the mother]
Record General Impression and Possible Recommendations to Pass unto Facility Management ○ General: ○ KMC Practice: ○ Documentation and Protocols: ○ Involvement of Management: ○ Others:

Figure 1, Preterm Growth Monitoring Chart for Boys and Girls

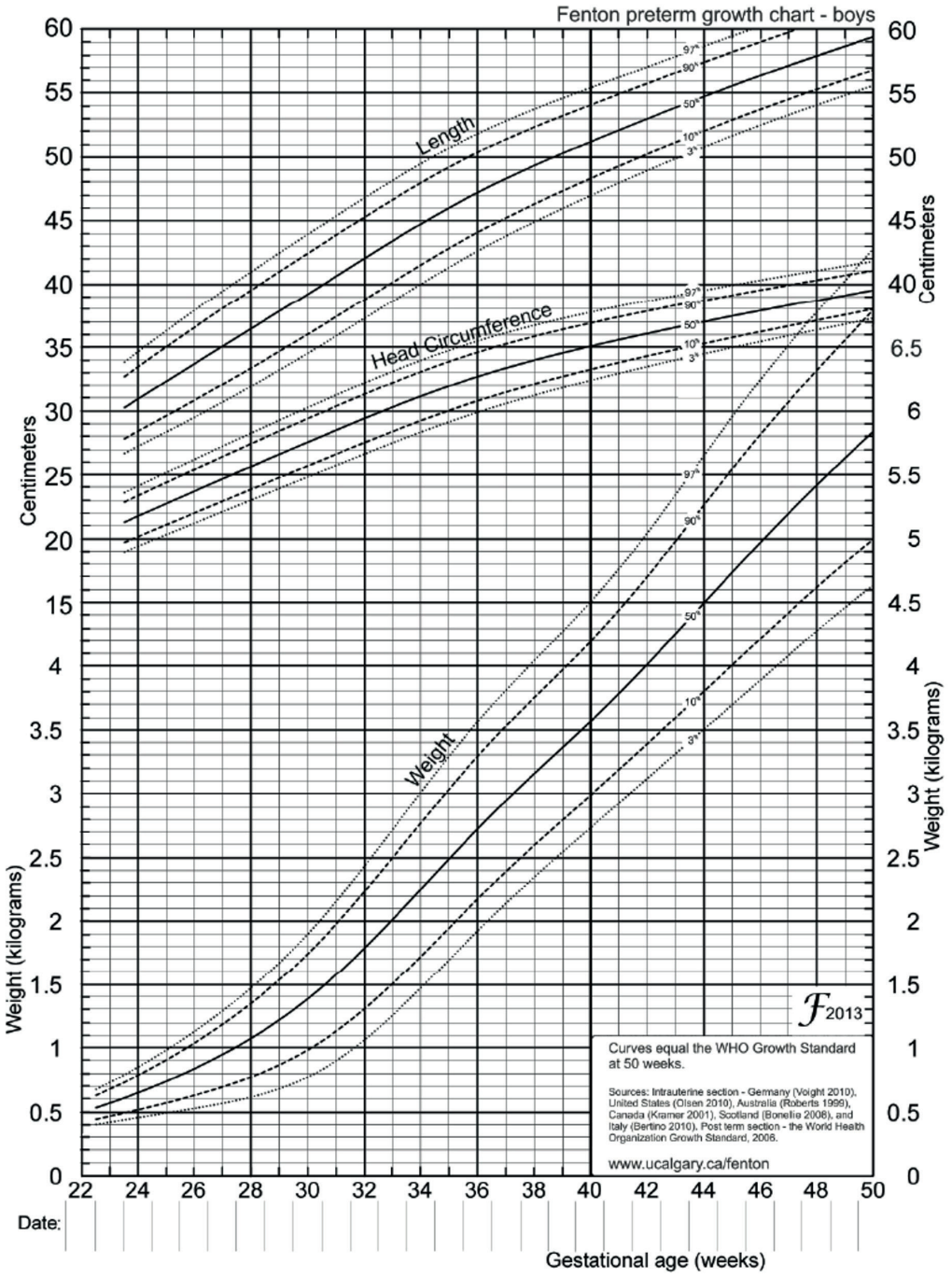


Figure 2, Preterm Growth Monitoring Chart for Boys and Girls II

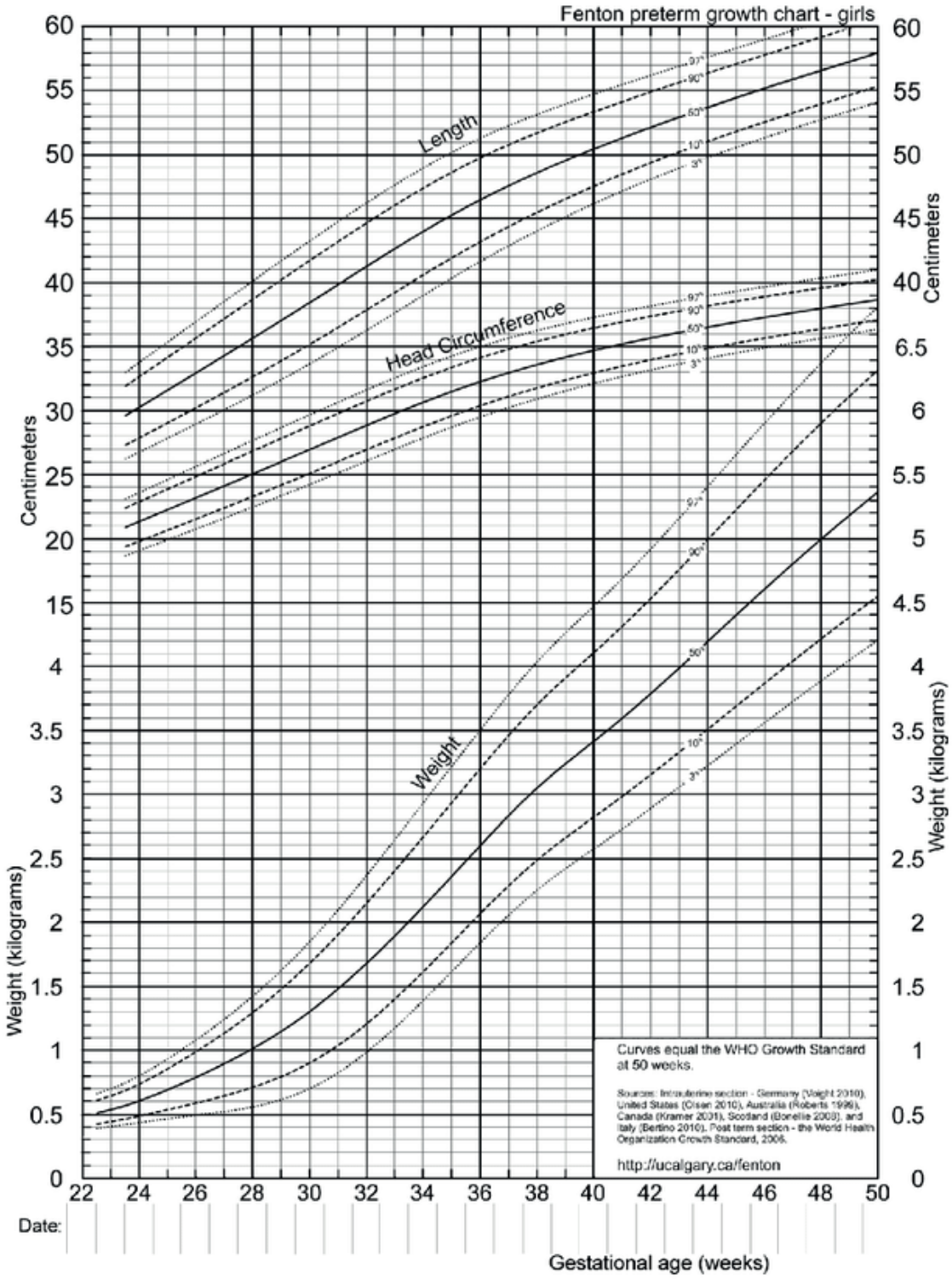


Table 4, KMC Daily Score Sheet

KMC Daily Score Sheet Based on the Intra-hospital KMC Training Programme in Bogotá, Colombia				**Date ➔**																		
Name:			**Breastfeeding:**	Started 24h KMC:	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18
Reg No:			**Formula:**	...../...../.....																		
Evaluation		**Score**		**Weight ➔**																		
	0	**1**	**2**	**Remarks**																		
Socio-economic support	No help or support	Occasional help or support	Good support system																			
Mother's milk production	Expresses 0-10 ml breast milk	Expresses 10-20 ml breast milk	Expresses 20-30 ml breast milk	*Must score 2 before discharge. N/A for formula*																		
Positioning and latching baby onto breast	Always needs assistance	Occasionally needs assistance	No assistance needed	*Not applicable for formula feeding*																		
Baby's ability to suckle at the breast / bottle	Gets tired very quickly	Gets tired infrequently	Takes all feeds well																			
Confidence in handling baby i.e. feeding, bathing, changing	Always needs assistance	Occasionally needs assistance	No assistance needed																			
Baby's weight gain per day	0-10g	10-20g	20-30g	*Must score 1 or 2 for a few days before discharge*																		
Confidence in administering vitamin and iron drops	No confidence	Some confidence	Fully confident																			
Knowledge of KMC	No knowledge	Some knowledge	Knowledgeable																			
Acceptance & application of KMC	Does not accept or apply KMC method	Partly accepts & applies KMC method	Fully accepts and applies KMC method	*Applies KMC without having to be told*																		
Confidence in caring for baby at home	Does not feel sure or able	Feels slightly unsure & unable	Feels confident																			
TOTAL SCORE per day																						

Ready for discharge: Breastfeeding: if baby and mother score >19 ■ Formula feeding: if mother and baby score >15

Adapted from the Groote Schuur Hospital, compiled by Kalafong KMC Unit

Section - 3: KMC Standard Operating Procedures

SOP No.1: Minimum Requirements for KMC Unit/Space

- A well-ventilated room.
- Bathrooms and toilets adjacent to the KMC unit/space.
- A facility where caregivers can wash and hang clothes.
- Sinks with running water and soap for effective hand washing.
- Dispenser for disposable paper towels.

Additional Requirements:

- Access to a kitchenette for making refreshments.
- A day room or yard for sunning.
- Where possible, a small room would be useful for the discussion of private and confidential issues and for reassessing babies. Most hospitals have a counselling room within maternity, which can be used for this purpose.
- Comfortable adjustable beds or ordinary beds with enough pillows to maintain an upright or semi-recumbent position.
- Access to the KMC wards should be limited to health workers, mothers, and their selected helpers.
- Rooms should have privacy and adequate warmth (25–28˚C). Curtains or screens can help to ensure privacy.
- Heaters should be available for periods when temperatures may fall below 25˚C.
- Facilities for health education, promotion, and entertainment (TV, radio, among others).

Equipment and Supplies:

- Adjustable/ordinary beds with pillows to allow for reclining.
- Bedside cabinets.
- Heaters.
- Chairs.
- Clinical thermometer.
- A wall thermometer.
- A low-reading glucometer (lower than 20mg/dl).
- Wall clock.
- NG tubes.
- Appropriate-sized name tags.
- Measuring cups.

- Feeding cups.
- Graduated feeding cups.
- Expressing bowl.
- Fridge to store expressed breast milk.
- Neonatal scales with 5/10g intervals should be used.
- Basic resuscitation equipment, including a suction device and a bag-valve-mask device. The bag should be the 200ml–300ml size, and the mask should be in preterm (0) and term (1) sizes.
- Oxygen should be available both in low and high-flow forms (concentrators, or piped oxygen).
- A resuscitation corner, preferably with a resuscitaire/warmer, to be used in case of an emergency.
- Paediatric flowmeters, nasal prongs, masks, and pulse oximeters.
- Drugs for preventing and treating frequent problems of preterm newborn babies may be added according to the Sri Lanka National guidelines.
- KMC wrappers (e.g. local cloth, the lappa).
- Baby hats.
- Socks (optional).
- Diapers/napkins.
- Front-open gowns for mothers.

SOP No. 2: KMC Positioning Steps

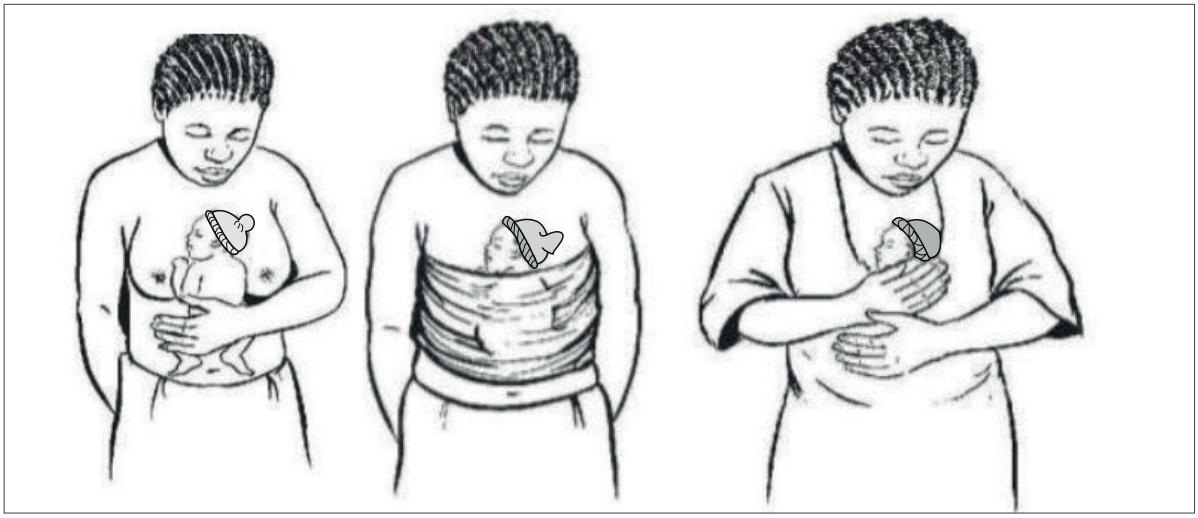
a. Dress the baby in socks, a diaper/nappy, and a cap. (Socks are optional.)

b. Place the baby between the mother's breasts, chest to chest.
The head is turned to one side in a slightly extended position, with the top of the lappa just above the baby's ear. Feet should not hang below the binder.

c. This keeps the airway open and allows eye-to-eye contact between the mother and the baby.

- Both forward flexion and hyperextension of the head should be avoided.
- The hips should be flexed and abducted in a "frog-like" position.
- The arms should also be flexed.

Figure 3, KMC Positioning Steps



d. Secure the baby onto the mother's chest with a clean lappa, soft cloth, or any other recommended KMC wrappers that are available.

e. The edge of the lappa or binder should cross over the baby's ear to keep the head stable.

- Secure the head.
- Secure the buttocks.
- Apply appropriate tightness.

f. The baby's abdomen should not be constricted and should be at the level of the mother's epigastric region. This way, the baby will have enough room for abdominal breathing.

g. Put a blanket or shawl on top for additional warmth.

h. Instruct the mother to put on a top that is open at the front.

i. Instruct the mother to keep the baby upright when walking or sitting.

j. Advise the mother to have the baby in continuous skin-to-skin contact for 8 to 24 hours per day.

SOP No. 3: Signs of Good Positioning, Attachment, Effective Suckling, and How to Attach

Positioning refers to how the baby is placed during breastfeeding.

Signs of Correct Positioning:

- The infant's head and body are in a straight line.
- The infant is facing the breast, and the baby's nose is opposite the mother's nipple.

- The infant's body is close to the mother's body (infant's tummy to mother's tummy).
- The mother is supporting the baby's whole body, not just the neck and shoulders.

Signs of Good Attachment:

- The chin is touching the breast.
- The mouth is wide open.
- The lower lip is turned outward.
- More areola is seen above than below the mouth.

Signs of Effective Suckling:

- The infant takes slow, deep suckles, sometimes pausing, and you may be able to see or hear the baby swallowing.
- The cheeks are round when suckling.
- The baby releases the breast when milk is finished or when he/she is satisfied.
- The mother feels relaxed.

How to Attach:

- Hold the breast using a C-grip.
- Stimulate the baby to open its mouth wide by touching the baby's upper lip with the nipple.
- Once the baby's mouth is open wide, introduce the breast into the mouth by aiming the baby's lower lip well below the nipple.

Ending a Feed (Additional):

Wait until the baby lets go of the nipple.

- However, if the baby has not attached correctly or if the baby does not come off the breast by themselves after 20 to 25 minutes on one side, and the mother would like to switch breasts or rest for a while, the baby can be taken off the breast by first breaking the suction.
- To release the suction, insert the mother's little finger into the corner of the baby's mouth, pushing the finger between his gums until a release is felt or heard.
- The mother can also try placing her finger on the corner of the baby's mouth and gently pulling the skin towards his/her ear.
- After taking the baby off the breast, the mother's bra flaps should be left down so that air can dry her nipples. Air drying helps maintain healthy nipples.

SOP No. 4: Cup Feeding

Items Required:

- Handwashing sinks with running water, soap, and disposable hand towels.
- Calibrated safe cup – BPA-free container.
- Soft piece of cloth/disposable towel.
- Comfortable chair.

Step 1: Observe for hunger cues. Do not wait for crying to feed.

Step 2: Observe hand hygiene.

Step 3: Prepare and put the appropriate volume of milk in a cup.

Step 4: Sit the baby at almost a 90° angle, supporting the baby's head, neck, and back as shown below.

Figure 4, Sit the Baby Upright at Almost 900 and Place Cup on Lower Lip

Figure 5, Tilt Cup So That Baby Can Lick the Milk

Do not feed a baby who is lying down

Step 5: Place the cup on the lower lip and tilt the cup so the milk reaches the baby lips. Let the baby lick the milk using the tongue (**see fig above**). Do not pour milk into the baby's mouth.

Step 6: Continue tilting the cup as the baby continues to lick the milk.

Step 7: When baby has taken enough, he will start closing his mouth and even fall asleep. Do not feed a sleeping baby.

SOP No. 5 Nasal Gastric Tube Insertion and Feeding

Items required

- Hand washing sink with running water, soap and disposable hand towels or alcohol-based hand rub
- Clean gloves
- Gastric tube size 4, 6 or 8
- Marker pen or tape
- 2cc syringe
- Water in a gallipot
- Trans pore medical adhesive/Plaster
- Kidney dish or procedure tray
- Stethoscope
- 20cc syringe

Inserting and using a NGT/OGT

Step 1: Select the appropriate size of the nasal/oral gastric tube to use. Less than 1500gm – size 5 – 6, equal to and above 1500gm size 6 – 8.

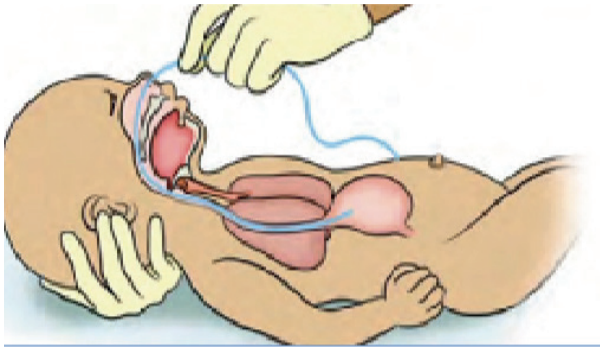
Step 2: Measure the distance from the nose to the tragus of the ear, then to the midpoint between xiphisternum (epigastrium) and umbilicus (OGT measure from the corner of the mouth to the tragus of the ear, then to the midpoint between xiphisternum (epigastrium) and umbilicus). Mark the tube at this point.

Step 3: Insert the nasal/oral gastric tube (Figure 7).

- Lubricate the tip of the NGT with breast milk/water.
- Slightly flex the baby's head.
- Insert the tube through the nose (NGT) or mouth (OGT) until the measured distance is reached.
- Secure the gastric tube on the cheek if it is inserted in the nose and on the chin if it is inserted in the mouth using a transparent medical adhesive.

Figure 6, Correct Sizing of Nasal/Oral Gastric Tube

Figure 7, Correct Insertion of Nasal/ Oral Gastric Tube



Step 4: To confirm the position of the nasal/oral gastric tube:

- Aspirate 2ml of gastric aspirate using a 2ml syringe. If no aspirate is obtained, inject 2ml of air down the tube using a 2ml syringe and listen over the abdomen with a stethoscope for a whoosh sound, or place the end of the tube in a dish of water to check for bubbling.
- Before feeding, always confirm the tube is in the correct position by ensuring the mark of the measured distance is visible (Figure 10).

Figure 8, Confirm Correct Placement Before Use

Figure 9, Safely Secured Oral Gastric Tube

Step 5: Using the gastric tube – Demonstrate to the mother until she can do it herself.

- Keep the gastric tube well secured to maintain the correct position.
- Use the tube for the purpose it was inserted for – feeding purposes.
- To prevent gastric distension during oxygen therapy via nasal catheter and CPAP – When used for feeding, close it for 30 minutes after the feed, then open it again.

Procedure:

1. Confirm the correct volume to feed.
2. Observe hand hygiene protocol.
3. Check the correct tube placement.
4. Pour the correct volume of expressed breast milk (EBM) into a cup.
5. Remove the barrel from a 10–20cc syringe.
6. Pinch the end of the NG/OG tube, open it, and attach the empty syringe.
7. Pour milk into the empty syringe, remove the pinch, and hold the tube above the baby (see figure below).
8. Let the milk flow slowly by gravity for 10–15 minutes.

Figure 10, Feeding Using a Gastric Tube. Hold the Syringe With Milk Above the Baby and Let the Milk Flow by Gravity for 10 – 15 min.

SOP No. 6: Expressing Breast Milk

Items required

- Hand washing equipment with running water, soap, and disposable hand towels.
- Wide open Bisphenol A (BPA) free plastic bowl to collect the milk.
- BPA free storage containers for storing the milk.
- Comfortable chair for the mother, with a foot stool if necessary.

Steps to Express Breast Milk:

Step 1: Observe hand hygiene protocol.

Step 2: Obtain clean, safe containers to express and store the milk. The expression container should have a wide opening.

Step 3: Relax and massage the breast all around to stimulate let-down.

Step 4: Hold the breast in a 'C' grip with your index finger and thumb near but not touching the areola.

Step 5: Push the breast back towards the chest wall, squeeze, and release.

Step 6: Repeat this step until the breast is 'empty'. Begin with the next breast until completely drained.

Step 7: Use the expressed breast milk immediately or store it safely for later use.

Figure 11, Hold Breast Using 'C' Grip

Figure 12, Push Breast to Chest Wall, Press and Release

Figure 13, Expression of Breast Milk

SOP No. 7: Weight Loss Calculation (%)

- Day 1: 1.3kg
- Day 3: 1.2Kg
- =(Day1-Day3)/Day 1×100
- =(1.3kg-1.2kg)/1.3kg×100
- =0.1/1.3*100
- =7.7%

SOP No. 8: Weight Gain Calculation in g/kg/day

Day 8:1.25kg

Day 10 : 1.3kg

(Day 10(grams)-Day 8(grams)÷Day 10(Kg)

(1300g-1250g)÷1.3Kg

38.5g/Kg in 2 days

19.2g/Kg/day

Refer to updated Special care Baby Unit (SCBU) updated protocols for IVF calculation

SOP No. 9: Steps to Take During KMC Follow-Up Visits at the Health Facility

Step 1: Conduct Triage

- Do a quick assessment of the baby to exclude any danger signs.

Step 2: Growth Monitoring

- Weigh the baby and check weight gain over the last period. If weight gain is adequate (at least 15g/kg/day on average), praise the mother. If it is inadequate (less than 15g/kg/day), inquire and look for possible causes and solutions—these are generally related to feeding or illness.
- In case of non-exclusive breastfeeding, particularly ask and look for signs of nutritional or digestive problems.
- Also, monitor head circumference and record it in the Fenton growth chart.

Step 3: History Taking - KMC

- Obtain history from the mother/caregiver to establish the duration of skin-to-skin contact, KMC positioning, clothing, body temperature, and support for the mother and the baby.
- Is the baby on supplements?
- Ask about the dosage of each supplement given to the baby.
- Is the baby showing signs of intolerance to KMC?
    - Assess whether the baby is showing signs of intolerance (e.g. the baby is too active or uncomfortable in the KMC position).
    - Is it time to wean the baby from KMC (usually around 40 weeks of post-menstrual age, or just before)? If not, encourage the mother and family to continue KMC as much as possible.

Step 4: Breastfeeding

- Establish if the baby is exclusively breastfed. If yes, praise the mother and encourage her to continue. If not, advise her on how to increase breastfeeding and discourage breast milk substitutes, supplements, or other fluids.
- Ask and look for any problems and provide support.

Step 5: Alternative Feeds

- If the baby is taking formula supplements, check their safety and adequacy (amount, dilution, and hygiene practices), and ensure that the family has the necessary supply.
- Confirm that the family can make the feeds hygienically.

Step 6: Physical Examination

- Perform a physical assessment of the baby, ask, and look for any signs of illness (whether reported or not reported by the mother). Check and rule out any neonatal danger signs.
- Manage any illness according to IMNCI protocols and guidelines. Counsel the mother and family to continue KMC as much as possible.

- Continue educating the mother on neonatal danger signs. Provide a sufficient supply of medicines (based on the current weight) to last until the next follow-up visit.

Step 7: Routine Childcare/Immunisation Integrated MCH Services

- Once discharged from the ward, encourage the mother to attend routine childcare and follow the National Immunisation Schedule for immunisation.
- During each KMC visit, check whether the child has been taken to the paediatric ward, neonatal ward, or under-fives clinic by checking the under-fives card or Mother-Child Health Handbook. If a vaccine has been missed, it should be given at this visit.

Step 8: EMTCT

- Check the mother's HIV status. If HIV positive, assess adherence to antiretroviral treatment. If HIV negative, ensure that she is being retested every six months according to the National EMTCT guidelines.

Step 9: Mother's Concerns

- Ask the mother about her own health and her social support networks. Discuss any experiences and the problems she has concerning continuing KMC at home, and provide support.
- Encourage her to join a KMC support group at the facility or community level. Discuss and link the mother to family planning and other services.

Step 10: Next Follow-Up Visit

- Always schedule and confirm the next visit.
- Do not miss the opportunity to check and advise on hygiene and to reinforce the mother's awareness of danger signs that require prompt care.

Step 11: Special Follow-Up Visits

- If required for other medical problems, encourage the mother to attend them.

Section - 4:
KMC IEC Materials:

Figure 14, A Poster Depicting Elements of KMC

KMC benefits for the baby (use with mothers):

Figure 15, A Diagram to Use by the Health Care Providers While Counseling the Caregiver on Benefits of KMC to the Baby

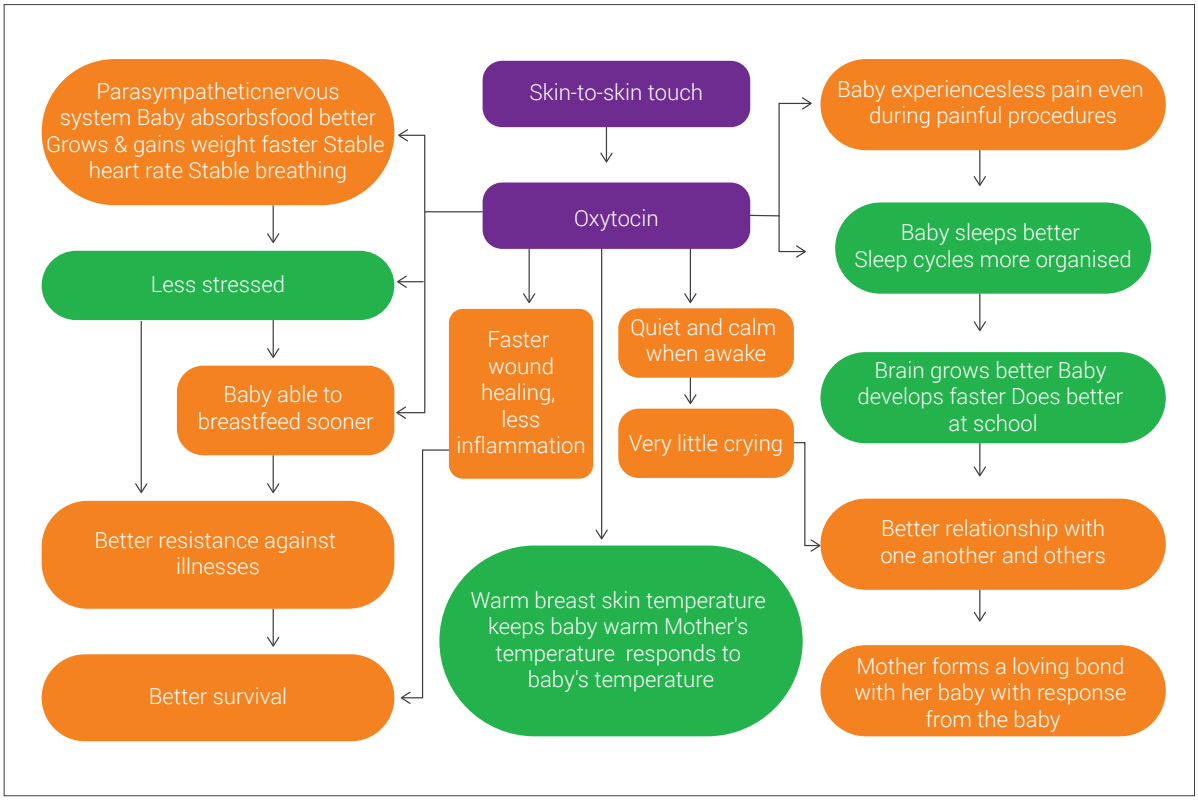


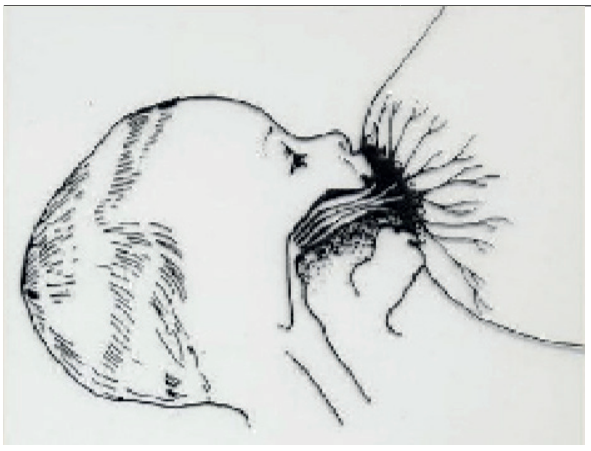
Figure 16, Baby in KMC Position

Figure 17, Father Practicing KMC

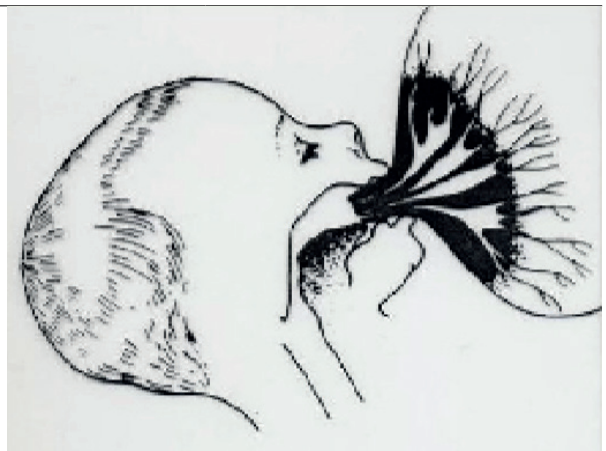
Figure 18, Sleeping and Resting in KMC Position

Figure 19, Breastfeeding in KMC

Figure 20, Cross Cradle Position for Preterm Babies



Good attachment



Poor attachment

Figure 21, Good and Poor Attachment

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