MALAWI NATIONAL GUIDELINES
FOR
KANGAROO MOTHER CARE

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ABBREVIATIONS

DHS Demographic and Health Survey

EBM Expressed Breast Milk

HIV Human Immunodeficiency Virus

IMR Infant Mortality Rate

KCN Kamuzu College of Nursing

KMC Kangaroo Mother Care

LBW Low Birth Weight

KCH Kamuzu Central Hospital

MOH Ministry of Health

PHC Primary Health Care

PMTCT Prevention of Mother to Child Transmission

RH Reproductive Health

SCUS Save the Children Federation (USA)

SNL Saving Newborn Lives

UNICEF United Nations Children's Fund

WHO World Health Organization

MICS Multiple Index Cluster Study

DEFINITION OF TERMS

Morbidity: The state or condition of being afflicted with disease or the proportion of sick people in a particular community. The relative incidence of a disease.

Mortality: The state of being subject to death.

Mortality Rate: The ratio of deaths in an area, expressed per 1000 per year or the rate of death per unit of population.

Neonatal death: The death of an infant within 28 days (0-27) of birth who after delivery, breathed or showed any other evidence of life such as a heartbeat.

Post neonatal death: The death of an infant on or after 28 days but less than 12 months.

Infant death: The death of a child before its first birthday.

IMR: Infant Mortality Rate – is the death rate in a calendar year of children during their first year of life; it is usually expressed per 1000 live births in the same calendar year.

Infant: A very young child aged less than one year (birth to 1 year)

Low birth weigh: - birth weight of less than 2500g regardless of gestational age

Very low birth weight (VLBW): - birth weight of less than 1500g regardless of gestational age

Extremely low birth weight (ELBW): - birth weight of less than 1000g regardless of gestational age

Stable Baby: - a newborn baby whose vital functions (breathing and circulation) do not require continuous medical support and monitoring

1 INTRODUCTION

The newborn's ability to survive and thrive in the neonatal period and through infancy is strongly influenced by the birth weight. Low birth weight (LBW) is the most important contributing factor to neonatal morbidity and mortality. Between 40 and 80 percent of all neonatal deaths occur among low birthweight babies. Compared to babies with normal birth weight, low birth weight babies have a much greater risk of dying.

In Malawi, 42 percent of all infant deaths occur during the neonatal period. Approximately, 14 percent of babies born are of low birth weight and these babies, being more vulnerable, contribute significantly to the high neonatal and infant mortality rates.

Care of LBW babies requires special attention, particularly with regard to warmth, feeding, hygiene practices, and prompt identification and treatment of infections. Kangaroo Mother Care (KMC) has been found to be an effective method of care for stable low birth weight babies.

To facilitate the establishment and expansion of KMC as a method of care for stable low birthweight babies in Malawi, KMC guidelines have been developed for health workers.

Training in KMC shall be conducted by qualified trainers who will have undergone an appropriate training course at the KMC Learning Centre.

2 AIM

To facilitate the use of Kangaroo Mother Care (KMC) for stable low birth weight infants.

3 OBJECTIVE

To provide a guide that will assist providers to establish Kangaroo Mother Care (KMC) as a safe and effective method for low birth weight babies (LBW) at all levels of care including community level.

4 KANGAROO MOTHER CARE (KMC)

Kangaroo mother care (KMC) is an effective way to meet baby's needs for warmth, breastfeeding, protection from infection, stimulation, safety and love. It is care of low birth weight infants carried skin-to-skin with the mother/substitute and is a powerful, easy-to-use method to promote the health and wellbeing of infants born preterm as well as full term. Its key features are:

- Early, continuous and prolonged skin-to-skin contact between the mother and the baby;
- Exclusive breastfeeding;
- It is initiated in hospital and health center and continued at home, and can also be initiated at home;

BENEFITS OF KMC

- Helps maintain an appropriate body temperature for the newborn
- Promotes breastfeeding, resulting in a higher rate and longer duration of breastfeeding
- Babies gain weight and grow faster as KMC promotes feeding on demand and reduces the need for high caloric expenditure from the baby to maintain body temperature
- Decreases the occurrence of apnoeic attacks and irregular breathing
- Associated with less infections and when they occur, they are less severe
- Decreases mortality of low birth weight babies
- Increases mother's confidence in handling her small newborn and improves bonding
- Reduces hospital stay for mother and baby (early discharge)
- Reduces costs for the health facility and the mother/guardian as minimal equipment is required and is less expensive than incubator care
- Enables fewer nursing staff to care for larger numbers of low birthweight newborns

5 HOW TO PRACTICE KMC

5.1 When to start KMC –Eligibility Criteria for Admission

It is recommended that all babies less than 2500g should be started on KMC, however there are different eligibility criteria for admitting LBW babies for KMC at the various health facilities and at home.

Central, district and CHAM hospitals

- All babies less than 2000g
- Mother or surrogate accepts to practice KMC
- Mother has no major adverse medical or mental condition

Stable LBW babies weighing more than 2000g should not be admitted to hospital but have KMC initiated then referred to community support

Community/Rural hospitals (that have functioning incubators)

- All LBW babies weighing 1500g or above and do not need resuscitation
- Mother or surrogate accepts to practice KMC
- Mother or surrogate has no major adverse medical or mental condition

Stable LBW babies weighing more than 2000g should not be admitted to hospital but have KMC initiated then referred to community support

Community/Rural hospitals (that have no functioning incubators)

- All LBW babies weighing 1500g or above
- Baby is stable, active and breast feeding effectively
- Mother or surrogate accepts to practice KMC
- Mother or surrogate has no major adverse medical or mental condition

Stable LBW babies weighing more than 2000g should not be admitted to hospital but have KMC initiated then to community support

Health Centre with Maternity Unit

- All LBW babies weighing 1800g or above
- Baby is stable
- Mother or surrogate accepts to practice KMC
- Mother or surrogate has no major adverse medical or mental condition

Stable LBW babies weighing more than 2000g should not be admitted to hospital but have KMC initiated then to community support

Health Centre without Maternity Unit
These facilities do not have admission wards so LBW babies will not be admitted. Unstable LBW babies and those weighing less than 2000g will be put in KMC position and referred to a higher level of care. However, LBW babies meeting the following criteria will be managed by KMC on outpatient basis or referred to HSAs for CKMC:

- LBW babies weighing 2000g and above
- Baby is Stable
- Mother or surrogate accepts to practice KMC
- Mother or surrogate has no major adverse medical or mental condition

In addition, staff at these health centers will provide follow-up care for LBW babies on KMC referred from higher level facilities and from the community

Community Level
At this level all unstable LBW babies and those weighing less than 2000g will be put in KMC position and referred to a health facility. LBW babies meeting the following criteria will be managed by KMC at the community by HSAs:

- LBW babies weighing 2000g and above
- Baby is Stable
- Mother or surrogate accepts to practice KMC
- Mother or surrogate has no major adverse medical or mental condition

In addition, HSAs will provide follow-up care for LBW babies on KMC discharged from health facilities.

5.2 KMC Position

Key KMC Positioning Steps:

1) Dress the baby in socks, a nappy and a cap (chipewa).
2) Place the baby between the mother's breasts.
3) Secure the baby on to the mother's chest with a chitenje cloth.
4) Put a blanket or a shawl on top for additional warmth.
5) Instruct the mother to put on a front opened top
6) Instruct the mother to keep the baby upright when walking or sitting.
7) Advise the mother to have the baby in continuous skin-to-skin contact 24 hours (or less if intermittent KMC) per day.
8) Advise the mother to sleep in half sitting position in order to maintain vertical position of the baby.

5.3 KMC Nutrition

Breast-feeding

- Breast milk is the food of choice for all babies
- Have all babies on KMC immediately and exclusively breastfed on demand
- Feed babies who are not able to suck frequently with expressed breast milk (EBM), initially by cup or in certain circumstances by nasogastric tube
- While the suckling reflex is emerging, supplement these feeding methods by having the baby put to the breast for brief periods
- Once the baby is suckling well, the baby should be exclusively breastfed

Alternative feeding options

- For mothers who are HIV positive, counsel them on alternative feeding options for the baby, according to the Infant and Young Child Nutrition Policy and Guidelines

The calculation of feeds should be done using a guideline for volume of feeds required per day based on the age and weight of the baby. (See Appendix -1)

5.4 Care of the Baby during KMC

Infection prevention

- Wash hands
    - Before and after feeding baby
    - Before and after changing nappies
    - After using the toilet
- Clean or wipe baby daily ("head to toe")
- Ensure baby always wears clean nappies
- Ensure all cups and feeding utensils are clean before and after use
- Apply all other standard infection prevention measures

Monitoring - Health Facility Admissions

- Monitor vital signs twice a day, and more frequently when required
- Record feeds given as per schedule used
- Monitor growth by taking daily weight of the baby - at least 15g//Kg/day must be gained by the baby. If poor weight gain, assess possible causes such as inadequate amount and frequency of feeds, inadequate skin to skin contact and infection.

Community/Health Centers that do not have Maternity

- Provide 2 extra visits in addition to the 3 post natal care home visits (Community)
- Check growth by taking baby's weight at every home visit. If poor weight gain, assess possible causes such as inadequate amount and frequency of feeds and infection.
- Verify the daily duration of Skin to Skin contact
- Ensure that the baby is breast feeding adequately
- Assess baby for danger signs

Immunization

- Immunize baby according to the national immunization schedule

6 PHYSICAL AND EMOTIONAL SUPPORT

For KMC to be successful, mothers, family members and staff have to be convinced about using this method. A mother/guardian who is using KMC needs the following support: -

6.1 Support from Health Staff (facility and community based)

- Explain the concept of KMC to the mother and demonstrate how it is done
- Explain the benefits of KMC
- Integrate family members like father, grandmother, aunts, or other person, depending on the cultural set up
- Help the mothers with any problems related to positioning, feeding and care of the newborn
- Discuss daily with the mothers about any problems they may have and consistently encourage them to continue KMC
- Encourage mothers and family members to express concerns and ask questions
- Provide health education messages, and raise awareness to sensitize families and communities about KMC, to promote behaviour change and create demand for KMC as a norm for LBW babies
- Facilitate the identification of role models (modeling) of KMC in the community to minimize ridicule and stigma
- Provide consistent physical and emotional support

6.2 Support from Family Members

Encourage family members to do the following:

- Provide support both at home and whilst in the KMC Unit
- Take the baby from time to time in Kangaroo Position to allow the mother to relax
- Support the mother to continue KMC at home
- Provide consistent physical and emotional support

7 CRITERIA FOR DISCHARGE FROM KMC UNIT

Central, District and CHAM Hospitals:

Discharge from facility if:

- Baby has at least regained birth weight and has a minimum weight of 1500g.
- Baby has gained at least 15g/kg/day for three consecutive days
- Kangaroo position is well tolerated by baby and mother
- Condition of the baby is stable
- Temperature of the baby is stable
- No other illnesses exist
- Mother is capable of breast feeding and expressing breast milk
- Mother is willing to continue with KMC at home, and has support from the family
- Baby with birth weight of 1800g and above can be discharged without regaining birth weight and without attaining 15g/kg/day (Ambulatory)
- Baby with birth weight of 2000g and above will be discharged like a big baby but on KMC

Community/Rural Hospital and Health Centers with Maternity

- Baby has at least regained birth weight
- Kangaroo position is well tolerated by baby and mother
- Condition of the baby is stable
- Temperature of the baby is stable
- No other illnesses exist
- Mother is capable of breast feeding and expressing and cup feeding breast milk
- Mother is willing to continue with KMC at home, and has support from the family
- Baby with birth weight of 1800g and above can be discharged without regaining birth weight and without attaining 15g/kg/day
- Baby with birth weight of 2000g and above will be discharged like a big baby but on KMC

Note: These criteria apply to health facilities that admit KMC babies.

8 GUIDELINES FOR FOLLOW UP

a) Hospitals:

After discharge:

- A baby, whose weight is less than 1800g, is followed up at the discharging facility or the nearest health facility every week until the baby reaches 1800g.
- Once 1800g is attained, subsequent follow-up is done every 2 weeks until the baby is 2500g.
- Ensure mother is linked to the HSA in the community for continued KMC support.

b) Health Centers that Have Maternity (Ambulatory KMC)

- Twice in the first week then once weekly until the baby regains birth weight
- Once every 2 weeks after baby regains birth weight
- Ensure mother is linked to the HSA in the community for continued KMC support

c) Health Centers without Maternity and Community (Community KMC)

- Daily follow up for the first 3 days, 7th day and the 14th day

Care During a follow up visit:

- Weigh the baby
- Obtain history from mother/guardian to establish
  - If she is continuing KMC at home
  - Duration of skin-to-skin contact
  - How she is positioning the baby (KMC position)
  - If any fever or low temperatures and how she managed it
  - How the baby is feeding
  - Whether the baby is showing signs of intolerance (baby too active and uncomfortable in KMC position)
  - Whether there are any neonatal danger signs
- Perform a physical assessment of the baby
- Continue educating the mother on neonatal danger signs
- Discuss the experiences and the problems the mother has concerning continuing KMC and give support
- Encourage mother and family to continue KMC as much as possible
- Schedule the next visit
- Thank mother/guardian

9 CRITERIA FOR RE-ADMISSION

Readmit baby to hospital if:

- Gained less than 15g/kg/day in two consecutive follow up visits
- Lost weight
- Sick i.e. danger signs
- Mother is not continuing KMC as required and baby is less than 1800g

CRITERIA FOR REFERRAL:

Community/Rural Hospitals that have Incubators:

Refer LBW Baby to Central, District or CHAM Hospitals if

- less than 1500g
- Sick and not responding to treatment

Community/Rural Hospitals that have no incubator:

Refer LBW Baby to Central, District or CHAM Hospitals if

- not stable
- sick
- less than 1500g
- Mother or Surrogate does not accept KMC
- Mother is very sick and with no surrogate to help

Health Centers with Maternity:

Refer LBW baby to a higher level facility if

- less than 1800g
- not stable
- Sick
- Mother or Surrogate does not accept KMC
- Mother is very sick and with no surrogate to help
- 24 hours coverage with a health worker is not there

Health Centers without Maternity/Community:

- Refer all babies less than 2000g to a higher level facility
- Refer all sick LBW babies

9.1 CRITERIA FOR DISCONTINUING KMC

Discontinue baby from KMC when:

- Baby reaches weight of 2500g
- Baby does not tolerate KMC (becomes very active and is uncomfortable in KMC position)
- Mother has no desire to continue KMC- if 2000g and above, *if below 2000g refer for incubator care*
- Mother is sick or unable to provide KMC- if above 2000g*, below 2000g refer for incubator care*
- Baby is sick- if above 2000g, *if below 2000g refer for intermittent KMC or incubator care*

APPENDIX - 1

Table 1: Amount of milk (or fluid) needed per Kg/day and age (days)

Birth weight	Feed every	Day 1	Day 2	Day 3	Day 4	Day 5	Days 6-13	Day 14
1000-1499g	2 hours	60ml/kg	80ml/kg	90ml/kg	100ml/kg	110ml/kg	120-180 ml/kg	180-200 ml/kg
≥1500g	3 hours							

Table 2: Approximate amount of breastmilk needed per feed by birth weight and age (days)

Birth Weight	Number of feeds	Day 1	Day 2	Day 3	Day 4	Day 5	Days 6-13	Day 14
1000g	12	5ml	7ml	8ml	9ml	10ml	11-16ml	17ml
1250g	12	6ml	8ml	9ml	11ml	12ml	14-19ml	21ml
1500g	8	12ml	15ml	17ml	19ml	21ml	23-33ml	35ml
1750g	8	14ml	18ml	20ml	22ml	24ml	26-42ml	45ml
2000g	8	15ml	20ml	23ml	25ml	28ml	30-45ml	50ml

Note: For mothers who are HIV positive, provide feeding counseling options according to the Infant and Young Child Nutrition Policy and Guidelines

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