

Kangaroo Mother Care



Participant's Guide



USAID
FROM THE AMERICAN PEOPLE

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Access to clinical and community
maternal, neonatal and women's health services



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The ACCESS Program is the U.S. Agency for International Development's global program to improve maternal and newborn health. The ACCESS Program works to expand coverage, access and use of key maternal and newborn health services across a continuum of care from the household to the hospital—with the aim of making quality health services accessible as close to the home as possible. Jhpiego implements the program in partnership with Save the Children, Constella Futures, the Academy for Educational Development, the American College of Nurse-Midwives and IMA World Health.
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ABOUT THIS GUIDE

The Kangaroo Mother Care Training Package, comprising a Facilitator's Guide and a Participant's Manual, provides information about the needs and essential health care of low birth weight (LBW) (i.e., preterm and small for gestational age) babies from birth up to the time of discharge from Kangaroo Mother Care (KMC). Essential health care for LBW babies begins at the time of birth and continues in the facility, in the community and at home. The essential care elements for all LBW babies are: kangaroo position, nutrition, early discharge, follow-up and support.

This participant's manual uses a competency-based approach and is designed to teach health workers how to care for LBW babies using KMC. They are intended for in-service training of health workers who already have basic skills in maternal and newborn care. These basic skills should include management of labor and delivery, postpartum care, essential newborn care, initial management of newborn problems and breastfeeding (including management of breastfeeding problems). While this manual contains some information on these topics, it is not intended to be a reference for or to teach these basic topics.

Eight units compose the core of these materials, and two additional or supplementary units—KMC Supervision, Monitoring and Evaluation, and Establishing Kangaroo Mother Care Services—have been added for those who may need guidance in these areas. There are, in addition, a number of annexes.

The Participant's manual includes all of the technical content, handouts and learning activities. The Facilitator's Guide contains all of the participant materials and also includes administrative information, answer keys, trainer's notes and the knowledge questionnaire.

PERFORMANCE CHECKLISTS

There are a number of checklists throughout the materials with which the facilitator is asked to rate the performance of participants in various skills. These checklists break each skill down each into a sequence of discrete, small, clearly observable steps. A facilitator can use the checklists in several ways:

- To assess competency on key skills before training
- To monitor participants' progress during training
- To assess skills at the end of training
- To assess knowledge and skill retention later (at some time after the completion of training, such as during supervision)

No other supplementary material, such as local protocols and guidelines or reference materials, are part of this manual. Each training program will decide what is needed and develop or distribute these materials or handouts as appropriate.

ABBREVIATIONS

| | |
|--------|---|
| AFASS | Acceptable, feasible, affordable, sustainable and safe |
| AIDS | Acquired immune deficiency syndrome |
| ANC | Antenatal care |
| BCC | Behavior change communication |
| BEmONC | Basic emergency obstetric and newborn care |
| CKMC | Community Kangaroo Mother Car |
| CMC | Conventional mother care |
| DHO | District Health Officer |
| DHS | Demographic and Health Survey |
| EBM | Expressed breast milk |
| EDD | Estimated day of delivery |
| ELBW | Extremely low birth weight |
| HC | Health center |
| HIV | Human immunodeficiency virus |
| HLD | High-level disinfection/disinfected |
| IMCI | Integrated Management of Childhood Illness |
| KMC | Kangaroo mother care |
| LBW | Low birth weight |
| LMP | Last menstrual period |
| M&E | Monitoring and evaluation |
| MOHP | Ministry of Health and Population |
| NG | Nasogastric |
| NMR | Neonatal mortality rate |
| RDS | Respiratory distress syndrome |
| SFD | Small for dates |
| SGA | Small for gestational age |
| SNL | Saving Newborn Lives initiative of Save the Children US |
| STI | Sexually transmitted infection |
| TBA | Traditional birth attendant |
| TT | Tetanus toxoid |
| VLBW | Very low birth weight |
| WHO | World Health Organization |

UNIT 1: INTRODUCTION TO PRETERM/LOW BIRTH WEIGHT BABIES

GENERAL OBJECTIVE

At the end of the workshop, learners will be able to describe the issues related to preterm/low birth weight babies.

SPECIFIC OBJECTIVES

1. Define low birth weight (LBW).
2. Identify LBW babies through physical characteristics and calculation of gestational age.
3. Describe the contribution of LBW to poor neonatal outcome.
4. Explain the common causes of LBW.
5. List the needs and problems of LBW babies.
6. Describe current care of LBW babies.

LIST OF SESSIONS

Session 1.1: Kangaroo Mother Care Pre-Training Knowledge Assessment

Session 1.2: Low Birth Weight and Impact on Newborn Health

Session 1.3: Country Situation*

Session 1.4: Causes of Low Birth Weight

Session 1.5: Identification and Physical Examination of the Low Birth Weight Baby

Session 1.6: Needs and Problems of Low Birth Weight Babies

Session 1.7: Current Care of Low Birth Weight Babies

*Facilitators: This should be researched and prepared in advance.

HANDOUTS

- Pre-Training Knowledge Assessment Questionnaire (1.1)
- Categories of Low Birth Weight Babies (1.2)
- Contribution of Low Birth Weight to Newborn and Infant Outcomes (1.2)
- Newborn Health in _____ (To be adapted for country or region) (1.3)
- Newborn Health in Malawi (1.3) (Illustrative example)
- The Causes of Low Birth Weight: Maternal, Fetal and Placental (1.4)

- Physical Features of a Preterm Baby (1.5)
- Physical Features of a Small-for-Gestational-Age Baby (1.5)
- How To Assess the Maturity of the Low Birth Weight Baby (1.5)
- How to Calculate Gestational Age (1.5)
- Checklist for Initial Physical Examination of the Newborn Baby (1.5)
- Needs and Problems of LBW Babies (1.6)
- Current Care of LBW Babies (1.7)

GLOSSARY

Chorioamnionitis: Inflammation of the membranes that cover the fetus

Congenital anomalies: Abnormalities present at birth

Foremilk: The milk that comes from the breast at the beginning of a feed

Hind milk: Breast milk at the end of a feed; the hind milk contains more fat than the foremilk and has a higher calorie density.

Hypothermia: Body temperature (axillary) below 36.5 °C (97.7 °F)

Intrauterine growth retardation: Impaired growth of the fetus due to fetal disorders, maternal conditions or placental insufficiency

Lanugo: Fine, downy hairs that cover the body of the fetus; fine soft immature hair especially when preterm

Placenta abruption: Preterm separation of the placenta

Placenta previa: Placenta that is implanted in the lower uterine segment

Preterm infant: Infant born before 37 weeks of gestational age

Small for gestational age (SGA): Infant with a birth weight below the 10th percentile for his/her gestational age; an SGA baby may be preterm or full-term

Twin-to-twin transfusion: Inter-fetal blood exchange, which occurs exclusively in monochorionic (monozygotic) twins in whom circulation is shared

Vernix: thick, white, cheese-like oily substance covering the fetus; it is protective during intrauterine life

SESSION 1.1: KANGAROO MOTHER CARE PRE-TRAINING KNOWLEDGE ASSESSMENT

The results of the pre-training questionnaire help the facilitator to adapt the training as needed, to meet the learning needs of a particular group of participants.

HANDOUT: PRE-TRAINING KNOWLEDGE ASSESSMENT QUESTIONNAIRE

Participant Assigned Number: _____ Date: _____

Instructions:

Fill in the number and date according to the instructions you were given.

Circle the letter of the single **BEST** answer to each question.

SESSION 1.2: LOW BIRTH WEIGHT AND IMPACT ON NEWBORN HEALTH

HANDOUT: CATEGORIES OF LOW BIRTH WEIGHT BABIES

Low birth weight is defined as birth weight of less than 2,500 grams. There are three types of LBW babies:

- Preterm: born before 37 completed weeks*
- Very preterm: born before 32 completed weeks
- Small for gestational age (SGA): birth weight lower than expected for gestational age (may be term or preterm)

In addition, some LBW babies may be:

- Very low birth weight (VLBW): birth weight of less than 1,500 grams
- Extremely low birth weight (ELBW): birth weight of less than 1,000 grams

*LBW infants may be born at term.

HANDOUT: CONTRIBUTION OF LOW BIRTH WEIGHT TO NEWBORN AND INFANT OUTCOMES

Each year, about 20 million LBW babies are born. Birth weight strongly influences the newborn's chances to survive and thrive in the neonatal period and through infancy. About a fifth of the nearly 4 million neonatal deaths each year occur among LBW and preterm babies. In some countries, as many as 40–80% of all neonatal deaths occur among LBW babies. In industrialized nations, preterm birth is the main contributor to LBW. In less developed nations, high rates of LBW are due to both preterm birth and impaired uterine growth.

Compared to normal birth weight babies, LBW babies have a much greater risk of dying in the neonatal period as well as in the infancy period (29–365 days). Those babies who survive are at risk for poor growth and increased rates of illness from infectious diseases in infancy and childhood. They also may have compromised cognitive, motor and behavioral development.

LBW babies require special attention if they are to survive, particularly with regard to warmth, feeding, hygiene practices, and prompt identification and treatment of complications. Kangaroo Mother Care (KMC) is a simple, cost-effective approach that can meet many of these basic newborn needs.

SESSION 1.3: COUNTRY SITUATION

This handout will be distributed during the course..

HANDOUT: NEWBORN HEALTH IN _____

(Adapt this handout to be country- or region-specific.)

SESSION 1.4: CAUSES OF LOW BIRTH WEIGHT

HANDOUT: THE CAUSES OF LOW BIRTH WEIGHT: MATERNAL, FETAL AND PLACENTAL

The causes of LBW are many and complex. There is no single direct cause, but it happens more frequently to certain mothers or in the case of certain fetal problems or placental conditions.

Mothers who:

- Had an LBW baby before
- Have pregnancies that are closely spaced (less than 3 years between pregnancies)
- Have problems of pregnancy and labor such as:
 - Poor nutrition or low pregnancy weight gain
 - Multiple pregnancy
 - Pre-eclampsia and eclampsia
 - Infections during pregnancy (sexually transmitted infections [STIs], HIV/AIDS, hepatitis)
 - Preterm rupture of the membranes
 - Chorioamnionitis or infection of amniotic fluid
 - Malaria
 - Hypertension
 - Kidney disease
 - Chronic illness
 - Severe anemia
 - Sickle cell anemia
 - Drugs (alcohol, cigarettes, certain illicit substances)
 - Excessive stress, physical or emotional abuse
 - Are young (less than 20) or older (over 35)

Fetal problems (babies with the following problems or conditions during pregnancy):

- Chromosomal disorders and/or certain congenital anomalies
- Chronic fetal infections (e.g., congenital rubella, syphilis)
- Multiple gestation
- Twin-to-twin transfusion

Placental conditions:

- Placental insufficiency (resulting in intrauterine growth restriction)
- Placenta previa
- Infiltration of placenta by malaria parasites
- Infarction
- Preterm placental separation (placenta abruption)

SESSION 1.5: IDENTIFICATION AND PHYSICAL EXAMINATION OF THE LOW BIRTH WEIGHT BABY

HANDOUT: PHYSICAL FEATURES OF A PRETERM BABY

The chart below lists the physical features of preterm babies.

| PHYSICAL FEATURES | |
|-------------------|--|
| Weight | Less than 2,500 grams Some preterm infants may weigh more than 2,500 grams |
| Skin | Thin, with visible veins due to lack of fat under the skin May be covered at birth with thick, white, cheese-like, oily substance (vernix) Covered with fine, soft hair (lanugo) |
| Head | Relatively large when compared with size of body Sutures and soft spot (fontanelle) are wide Ear has no cartilage before 25 weeks, the ear can be folded and does not return immediately to the normal place |
| Chest | No breast tissue before 34 weeks of pregnancy |
| Suck Reflex | May be weak or absent |
| Legs/Arms | May be floppy Legs mostly extended or minimally flexed Arms only occasionally flexed or even extended |
| Feet | Foot creases on anterior 1/3 of foot |
| Genitals | Small Girls: labia majora do not cover the labia minora Boys: testes may not have descended into scrotum; absent or few creases on scrotum |

Figure 1: Comparison of foot creases

TERM INFANT



PRETERM INFANT



HANDOUT: PHYSICAL FEATURES OF A SMALL-FOR-GESTATIONAL-AGE BABY

This baby is usually born at or near term but has a low birth weight. (It should be noted that the SGA baby might also be preterm.) Small-for-gestational-age babies are also known as “small for dates” (SFD).

The chart below lists the physical features of SGA babies.

| PHYSICAL FEATURES | |
|--------------------------|--|
| Weight | Less than 2,500 grams |
| Skin | Lack of fat under the skin Dry and cracked |
| Head | Large when compared with small size of body Ear has cartilage and returns to normal when folded Eyes are often large and wide open |
| Chest | Breast tissue present |
| Suck Reflex | Usually vigorous, sometimes excessive |
| Legs/Arms | Thin, usually flexed |
| Feet | Skin creases cover the soles of feet |
| Activity | Active, alert; seems too alert for small size |

HANDOUT: HOW TO ASSESS THE MATURITY OF THE LOW BIRTH WEIGHT BABY

The gestational age of the newborn may be estimated by observation and examination of the following physical features:

| FEATURE | VERY PRETERM | PRETERM | TERM |
|-------------------|---|---|--|
| Lanugo | None | Abundant | Mostly bald |
| Creases on Soles | None | Few creases near toes | Creases over entire sole |
| Genitalia | Smooth empty scrotum; testes undescended Protruding labia minora | Scrotum has few creases; testes high in canal Labia minora equal to majora | Scrotum has many creases; testes in scrotum Majora cover minora |
| Breasts | Faint flat areolae | Nipple, minimal or no breast tissue | Breast tissue >10 mm diameter |
| Ears | Flat soft pinna without recoil | Springy, flat pinna | Edge curved with cartilage; firm recoil |
| Skin over abdomen | Thin skin, visible veins | Thin skin, veins less visible | Thick skin, dry, wrinkled, cracked or peeling |
| Posture | Limbs straight | Frog posture | Full flexion |

HANDOUT: HOW TO CALCULATE GESTATIONAL AGE

Another way to help determine the approximate maturity of the newborn is to calculate the gestational age. First review the antenatal record. You will need to know the mother's last menstrual period (LMP). Also obtain information about her antenatal care (ANC) visits such as whether the gestational age corresponded with the physical exam (fundal height). There are three main ways to estimate the delivery date:

- **Pregnancy calculator** (also called a “pregnancy wheel”):
 - Adjusted to the first day of the LMP and then shows:
 - Estimated day of delivery (EDD)
 - Gestational age as of today's date or any date in the past or future within the pregnancy period
 - To estimate the age of the LBW newborn:
 - Use a pregnancy calculator to find the LMP; then find the date of actual delivery to estimate the gestational age at the time of birth. Or find today's date to estimate the approximate current gestational age.
- **Calendar method:**
 - First day of LMP + 7 days and - 3 months
 - Alternatively, add 7 days plus 9 months
 - For example: 9th May + 7 days – 3 months = 16th February
 - 9th May + 7 days = 16th May, + 9 months = 16th February
 - To estimate the age of the LBW newborn:
 - Count the number of weeks starting with the woman's LMP to the date the baby was born.
 - If LMP is unknown, count the number of weeks from the known or estimated gestational age during pregnancy to the date the baby was born (for example, the gestational age by exam or ultrasound as recorded on the mother's antenatal record).

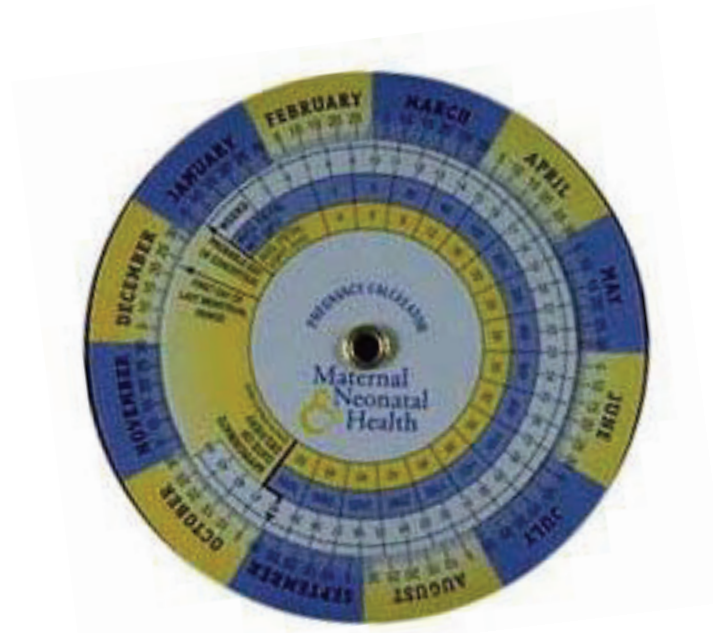
EXERCISES FOR CALCULATING GESTATIONAL AGE

Instructions:

Use a gestational wheel or calendar to calculate the following:

- Mrs. A. reports that the first day of her LMP was 12 June 2008. She delivered a baby boy on 1st January. What was the baby's gestational age at delivery?
- Baby girl Miriam was born 2 weeks ago and weighed 2,000 grams. Her mother reports that her EDD is 1 month from today. What is baby Miriam's approximate gestational age today?
- Mrs. G. is attending antenatal clinic for her 2nd pregnancy. Her last baby was born at 32 weeks. She is concerned about delivering too soon again. She reports her last LMP on 25 December 2007. What is Mrs. G.'s EDD?
- Mrs. G. returns to the clinic on 16 August 2007 with mild contractions. What is the approximate gestational age on that date?
- Mr. P. is very happy because his wife felt their baby move for the first time today. She is 20 weeks pregnant according to her LMP. Mr. P. asks you when the baby is expected to be born. What will you tell him?
- Using today's date, give an estimated EDD using the gestational wheel.
- Mrs. P. is to return for her next visit at 28 weeks. What is the approximate date of her next appointment? (Remember, today, she is 20 weeks.)

Figure 2: Gestational wheel from the Maternal and Neonatal Health Program



HANDOUT: CHECKLIST FOR INITIAL PHYSICAL EXAMINATION OF THE NEWBORN BABY

Rate the performance of each step or task observed using the following rating scale:

1. **Needs Improvement:** Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. **Competently Performed:** Step or task performed correctly and in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR INITIAL PHYSICAL EXAMINATION OF THE NEWBORN BABY | CASES OBSERVED | | | | |
|---|----------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| GETTING READY | | | | | |
| 1. Prepare equipment. You will need: Clean surface, low reading thermometer, watch, timer or clock with second hand, scale for weighing and clean clothes. Check equipment first to be sure everything is working. | | | | | |
| 2. Explain to the mother and family what you are going to do and encourage them to ask questions. | | | | | |
| 3. Wash your hands thoroughly with soap and water. | | | | | |
| 4. Dry with a clean, dry cloth or air-dry. | | | | | |
| 5. Put on gloves (gloves do not have to be sterile). | | | | | |
| HISTORY | | | | | |
| 1. Ask the mother or look at her ANC record to find out :1) her expected date of delivery; and 2) if she had any health problems that may affect the baby: | | | | | |
| a) Syphilis | | | | | |
| b) Tuberculosis | | | | | |
| c) HIV/AIDS | | | | | |
| d) Bag of water broken before labor or more than 18 hours earlier | | | | | |
| e) Fever during labor | | | | | |
| 2. Ask the mother what she has observed about the baby. | | | | | |
| 3. Ask if the baby has passed meconium stool or urine. | | | | | |
| 4. If the mother or family is worried about anything, listen to their concerns. | | | | | |
| EXAMINATION | | | | | |
| 1. Throughout the exam: | | | | | |
| a) The baby should be kept warm; therefore, uncover only parts that are being examined while keeping the head covered. | | | | | |
| b) Explain to the mother and family what you are doing and answer any questions they ask. | | | | | |
| c) Handle the baby gently. | | | | | |

| SKILLS CHECKLIST FOR INITIAL PHYSICAL EXAMINATION OF THE NEWBORN BABY | CASES OBSERVED | | | | |
|--|----------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| GETTING READY (CONT.) | | | | | |
| 1. Weigh the baby (if weight not recorded). | | | | | |
| 2. Look at the baby's activity and movement. | | | | | |
| 3. Look at the color and condition of the skin (rashes, other abnormalities that are pink, blue, gray or pale, jaundiced) shiny or peeling, thick or thin. | | | | | |
| 4. Check baby's temperature (using an axillary thermometer). | | | | | |
| 5. Examine the head, face, neck and mouth: | | | | | |
| a) Check the skull contours and feel for the normal sutures, fontanelle, caput and bruises. | | | | | |
| b) Check for any abnormalities of the face, especially for asymmetrical movement. | | | | | |
| c) Open the eyelids and check that the eyes have normal appearance (no opacity). | | | | | |
| d) Feel in the mouth with index finger to check if the palate is intact, then verify the sucking reflex. | | | | | |
| e) Check the neck for webbing and the clavicles for abnormalities. | | | | | |
| 6. Examine the chest: | | | | | |
| a) Check for symmetrical movement. | | | | | |
| b) Check breathing rate (count breaths in 1 minute). | | | | | |
| c) Check heart rate (check pulse as well). | | | | | |
| d) Check respiration: chest in-drawing, grunting, retractions, flaring and signs of respiratory distress. | | | | | |
| e) Look for cyanosis. | | | | | |
| 7. Examine the umbilicus for bleeding: | | | | | |
| a) Check that the cord tie is tightly applied. | | | | | |
| 8. Examine the genitalia for abnormalities: | | | | | |
| a) In boys: check position of urethral opening/anus and scrotum (feel the scrotum for testes). | | | | | |
| b) In girls: check presence of urethral and vaginal openings/anus and labia. | | | | | |
| 9. Examine the spine for abnormalities: | | | | | |
| a) Check full length of spine for unevenness. | | | | | |
| b) Check posture: limbs straight, frog position, full flexion. | | | | | |
| 10. Examine the limbs: | | | | | |
| a) Check soft tissues and bones for abnormalities. | | | | | |
| b) Check abduction of hips. | | | | | |
| c) Check toes and fingers for webbing. | | | | | |
| d) Check creases on soles (none, few or all over). | | | | | |

SESSION 1.6: NEEDS AND PROBLEMS OF LOW BIRTH WEIGHT BABIES

HANDOUT: NEEDS AND PROBLEMS OF LOW BIRTH WEIGHT BABIES

Although LBW newborns have special needs, all babies need basic care to help ensure their survival and well-being. This care (often called essential newborn care) includes warmth, establishment and maintenance of regular breathing, adequate and appropriate feeding, physical and emotional support, and protection from infections. Care of the cord at birth and in the days following birth is also part of this essential care. Addressing these basic needs helps to prevent serious or life-threatening problems. Below is an outline of the basic newborn needs, problems and corresponding preventive actions.

| NEED | PROBLEM | ACTION |
|--------------------------------|--|--|
| Warmth | Hypothermia | Dry/wrap immediately after birth Delay bathing Keep baby's head covered KMC |
| Breathing | Asphyxia, apnea, respiratory distress syndrome (RDS) | Stimulation/ resuscitation Monitor for breathing difficulties Oxygen as needed |
| Feeding | Hypoglycemia Undernourishment | Initiate breastfeeding soon after birth: <ul style="list-style-type: none"> • Exclusive breastfeeding • Avoid mixed feeds • KMC helps stimulate production of breast milk |
| Protection from infections | Sepsis | Clean delivery and cord care practices Hygienic practices Early and exclusive breastfeeding |
| Prompt management of infection | Sepsis | Prompt recognition and treatment/or referral according to country IMCI protocol |
| Physical and emotional support | Interference with bonding Neglect and abandonment | KMC Involve family in support |

Because of their size and immature organs or systems, LBW babies are more likely to develop health problems than normal weight babies. In addition to essential newborn care, the LBW baby needs special attention and care to prevent or address these problems. The following chart lists the possible problems of LBW babies and recommended care.

POSSIBLE PROBLEMS IN THE LBW BABY

| PROBLEMS | RECOMMENDED CARE |
|--|---|
| Breathing problems at birth and later (especially preterm babies) | Suction as needed. Resuscitate if the baby is not breathing, is gasping or is breathing less than 30 breaths per minute. Premature babies have immature lungs, get cold easily and are more prone to infections, all of which lead to breathing problems. |
| Low body temperature (hypothermia) because there is little fat on the body and the newborn's temperature-regulating system is immature | Make sure the baby is dry; avoid drafts. KMC with the baby in continuous skin-to-skin contact helps keep the LBW newborn warm. |
| Low blood sugar because there is very little stored energy in the LBW baby's body | These babies need breast milk (colostrum) as soon as possible after birth and very frequent feedings (every 2 hours) in the first weeks. |
| Feeding problems because of the baby's small size, lack of energy, small stomach and sometimes inability to suck | LBW babies can usually breastfeed well with help. The LBW baby may need many small, frequent feeds. Preterm babies may not be strong or mature enough to breastfeed well at first. KMC helps stimulate production of breast milk. Cup or tube feeding may be needed for some babies. See protocol in Session 2.3 for feeding babies when mother is HIV-positive. |
| Infections because the immune system is not mature | Caregivers must use infection prevention practices and wash their hands carefully before caring for LBW babies. Keep the cord clean and dry. At the health care facility, do not house uninfected LBW babies in the same room with septic newborns or sick children. Keep sick people (visitors and staff) away from LBW babies. |
| Jaundice (high bilirubin) because the liver is not mature | Preterm LBW babies become yellow earlier and it lasts longer than in term babies. If there is any jaundice in the first 24 hours or after 2 weeks or if the baby is yellow with any other danger sign, refer to a higher-level facility. The mother should breastfeed the jaundiced LBW newborn more often (at least every 2 hours) to help the baby get rid of the bilirubin through the stool. |
| Bleeding problems due to immature clotting ability at birth | Give vitamin K at birth. |

Source: Save the Children. 2004. *Care of the Newborn Reference Manual*.

SESSION 1.7: CURRENT CARE OF LOW BIRTH WEIGHT BABIES

HANDOUT: CURRENT CARE OF LOW BIRTH WEIGHT BABIES

Conventional Care/Incubator Care

An incubator is a ventilated, box-like apparatus in which the environment can be kept sterile, and at constant temperature, humidity and oxygen levels. It is used as a life support system for preterm, LBW and other newborn babies who are not yet stabilized.

With typical incubator care, the baby is dressed lightly and placed in the machine with the head slightly raised to prevent choking. The baby's temperature must be checked and recorded at least every 4 hours to detect any hyper/hypothermia. In older machines, incubator temperature must also be monitored and adjusted according to the baby's condition. For example, if the baby is hypothermic, the temperature is adjusted upwards.

Although incubators are available in some hospitals, there may be several problems associated with them. The first is the shortage of incubators. Due to the high cost, many hospitals have only one. Even in hospitals that have more than one, the number of incubators is often inadequate for the number of babies who need them. Often there are two or three babies sharing an incubator, which puts them at greater risk of infection.

The other problem is related to maintenance. Incubators are often not in good working condition due to the cost of and difficulty in obtaining spare parts and the lack of personnel trained to make repairs. These problems are worsened by frequent power cuts, which contribute to babies becoming hypothermic when heat is no longer generated. The other problem is cost; a prolonged stay in the nursery with incubator care can be very costly for the average family.

When an adequate number of properly maintained incubators is available, care for sick, very low birth weight or unstable low birth weight babies can be enhanced. In such cases, incubators can sometimes be used intermittently with KMC.

A NOTE ABOUT INCUBATORS

When available and functioning properly, incubators can be a valuable resource for the initial care of sick and very small babies. Ideally, there should be one incubator for each infant, and staff must know how to operate and provide basic maintenance for the machines. Once they are stable, most LBW babies can then be managed with KMC.

Open-Air Crib Care

Open-air cribs or baby cots are usually used for stable as well as sick term babies. The babies are usually fully dressed and wrapped in warm blankets before being placed in the crib. Those babies who have stabilized in the incubator are also transferred to these open-air cribs in a warm environment to prevent drops in body temperature. Additional heat in the room may be provided by electric heaters.

Traditional or Home Care

This type of care is provided to newborn babies who are born at home and may or may not have access to a health facility. Health facility access may be limited when there is lack of transport, or in some cases families may lack confidence in the health staff or facilities. At home, the primary caretakers include extended family members such as a grandmother or an aunt. The baby is wrapped in warm clothes/blankets, a fire may be lit for warmth, the baby is not taken outdoors and there is restriction on visitors until the cord has fallen off. In some settings, the mother and baby are kept inside for a period of about 40 days or 6 weeks.

Kangaroo Mother Care/Skin-to-Skin Care

This method is used for stable LBW babies. In KMC, the baby is held upright between the mother's breasts in continuous contact with her skin (skin-to-skin contact). The baby is positioned under a cloth on the mother's chest to keep the temperature stable, to stimulate the baby's breathing, to enable breastfeeding on demand and to promote mother and baby bonding.

UNIT 2: KANGAROO MOTHER CARE FOR LOW BIRTH WEIGHT BABIES

GENERAL OBJECTIVE

At the end of the session, learners will be able to explain how to practice the KMC method.

SPECIFIC OBJECTIVES

1. Define KMC.
2. State two types of KMC.
3. Explain the main eligibility criteria for KMC for both baby and mother.
4. Demonstrate the steps in positioning and wrapping the baby for KMC using the skills checklist.
5. Describe how to determine the frequency and amount of feeding.
6. Outline and briefly explain the main components of the AFASS criteria.

LIST OF SESSIONS

Session 2.1: Overview of Kangaroo Mother Care

Session 2.2: How to Practice Kangaroo Mother Care

Session 2.3: Nutrition and Growth Monitoring during Kangaroo Mother Care

TRAINING MATERIALS

Chalkboard, chalk, flip charts, markers, baby model (newborn), wrapper, overhead projector

HANDOUTS

- Background and Definition of Kangaroo Mother Care (2.1)
- Types of Kangaroo Mother Care and Duration (2.1)
- When to Start Kangaroo Mother Care and Eligibility Criteria (2.2)
- How to Position and Wrap the Baby for Kangaroo Mother Care (2.2)
- Steps for Coaching Mothers on Kangaroo Mother Care Positioning (2.2)
- Checklist for Kangaroo Mother Care Positioning (2.2)
- Feeding Techniques during Kangaroo Mother Care (2.3)
- Quantity and Frequency of Feeding (2.3)
- Feeding Low Birth Weight Babies When the Mother is HIV-Positive (2.3)
- Monitoring Growth in a Low Birth Weight Baby (2.3)

VIDEO

- *Rediscover the Natural Way to Care for Your Newborn Baby* (2001) by Dr. Nils Bergman

SESSION 2.1: OVERVIEW OF KANGAROO MOTHER CARE

HANDOUT: BACKGROUND AND DEFINITION OF KANGAROO MOTHER CARE

KMC is a simple, inexpensive way to care for LBW infants. The method was first introduced in Bogotá, Columbia, in the late 1970s by Drs. Martinez and Rey to deal with overcrowded neonatal units and a shortage of incubators. In KMC, the stable LBW baby is placed skin-to-skin against the mother's chest, wearing only a diaper (nappy), hat and socks. The baby is then kept upright between the mother's breasts, inside the mother's blouse, and held in place by a cloth wrapped around the mother and baby. In continuous KMC, the baby is kept in this position constantly except for short periods for bathing and diaper changing, or when the mother is attending to personal needs. During these times, the father or other relatives may assist with keeping the baby warm with skin-to-skin contact.

The KMC method facilitates breastfeeding on demand and maternal-infant bonding, and keeps the baby warm. It has since been introduced into the medical establishment of both the developed and developing world as a safe and effective alternative or complement to incubator care for LBW babies. Many hospitals in Europe and the Americas have adopted KMC, and it has also been introduced in several countries in Africa and Asia.

To date, most of the published experience and evidence regarding KMC has come from hospitals or health facilities with stable infants and skilled providers. The mother then continues care at home with close supervision and regular follow-up at the facility. However, several studies are under way to test the effectiveness of the method in other settings where referral and skilled care are limited.

Definition of Kangaroo Mother Care

KMC is a universally available and biologically sound method of care for newborns, in particular those who are preterm or of low birth weight. It is defined as early, prolonged, skin-to-skin contact between a mother and her LBW newborn. It can take place both in hospital and at home, and is usually continued until the baby reaches at least 2,500 grams in weight or 40 weeks postmenstrual age.

If desired, program managers can be encouraged to select local terms that are appropriate for describing KMC and other relevant concepts. In some countries, new phrases have been developed, as many languages do not have translations for the word "kangaroo" since it is not an animal known in their region. In some settings, it is even offensive to equate human action with those similar to an animal. A few places have therefore opted to use words close to the phrase "skin-to-skin" or something similar to describe KMC.

Who can provide Kangaroo Mother Care?

Everyone can provide KMC as long as they understand the method and are motivated to practice it. Anyone who wants to assist the mother can practice KMC, including grandmothers, sisters, aunts, husbands and even friends.

HANDOUT: TYPES OF KANGAROO MOTHER CARE AND DURATION

Continuous KMC

Continuous KMC is practiced 24 hours every day and requires support from family members, including the husband or partner. Family members can assist the mother with continuous KMC by keeping the baby skin-to-skin when the mother has to bathe or attend to personal needs. It is the ideal type of KMC for stable LBW babies.

Continuous KMC can be practiced at a facility with a KMC unit; it is a good way to help mothers with stable LBW babies care for their infants. They can continue this 24-hour care at home.

Intermittent KMC

This type of KMC is not done on a 24-hour basis but only for certain periods of the day. Within the hospital (or from home), the mother comes to the neonatal unit to do KMC at specified times; the newborn is left in an incubator or well-wrapped for the remainder of the time. Intermittent KMC is used mostly for very small and sick babies, and/or for mothers who do not want or are not yet ready or able to practice continuous KMC. Examples include very low birth weight infants or mothers who are recovering from surgery (e. g., C-section).

- Intermittent KMC is a good way to help mothers with sick infants prepare for continuous KMC.
- Intermittent KMC may also work for hospitals with no KMC unit, or for facilities that are in the process of planning a KMC unit. The staff can teach mothers/families how to practice KMC and they can do it intermittently as circumstances permit.

Duration of KMC

Both types of KMC are practiced as long as possible until the baby no longer tolerates the method. Babies who outgrow KMC become restless and will usually try to get out of the skin-to-skin position. Local KMC protocols may vary regarding the weight when babies are discharged from KMC follow-up. It is important to note, however, that babies should still be breastfed and kept warm even when KMC is no longer practiced.

SESSION 2.2: HOW TO PRACTICE KANGAROO MOTHER CARE

HANDOUT: WHEN TO START KANGAROO MOTHER CARE AND ELIGIBILITY CRITERIA

When to start KMC

The timing of initiating KMC depends mainly on the condition and status of the baby and the mother. It also depends on the willingness of the mother or another family member to commit to KMC.

KMC should be started when the small preterm or LBW baby is stable. Some sick babies can tolerate intermittent KMC; follow the IMCI or facility guidelines. It is important to encourage the mother to adopt KMC as soon as possible after birth.

If the mother is sick or unable to begin continuous KMC (such as when she has had a Cesarean birth), a family member can be taught to do it until the mother is well.

Eligibility criteria for KMC

Nearly every LBW baby can be cared for in KMC. To begin continuous KMC, the baby should be in stable condition. A “stable” baby is one who:

- Has no severe illness present such as sepsis, pneumonia, meningitis, respiratory distress or convulsions;
- Is able to breathe spontaneously without additional oxygen; and
- Is not on any special treatment that will restrict KMC, such as continuous IV fluids.

Follow your local protocol for when sick babies can begin KMC. Generally:

- Babies who have been started on antibiotics for suspected infection:
 - Can usually start KMC as soon as they are stable.
- Babies under phototherapy:
 - May be evaluated for intermittent KMC.
- Babies who require tube feeding:
 - Are usually eligible for KMC if they are stable. The ability to suck should not affect KMC in a stable baby (see Sessions 5.4–6).

HANDOUT: HOW TO POSITION AND WRAP THE BABY FOR KANGAROO MOTHER CARE

Positioning of the mother and baby

In KMC the baby, wearing only a nappy, socks and a hat, is held upright between the mother's breasts in continuous contact with her skin (skin-to-skin contact). The position of the baby against the mother's chest under the cloth should secure the position of the baby's head and neck.

Figure 3: Position of mother and baby in KMC



Tip for the Mother

When you first try KMC, the baby may be a bit restless. Don't worry; your baby will adjust to the KMC position within a few days.

The mother covers her baby with her own clothes and an additional blanket or shawl to cover the baby. While resting, the mother should be in a comfortable position, supported with pillows to keep her comfortable. When the mother walks around, the baby is still kept upright by a cloth. It is important that the nappy be changed soon after wetting or soiling, not only for comfort but to reduce heat loss in the baby.

Tip for the Mother

When your body is in direct contact with your baby's, your body heat helps to keep the baby warm and keep his temperature stable. This is why the baby does not need clothing for KMC.

Keeping the baby in the KMC position can be demanding for the mother, as the practice of continuous KMC is a tiring job. To assist the mother when she is tired or is attending to personal needs such as bathing, other family members (such as husbands, older siblings, grandmothers, mothers-in-law, sisters-in-law, etc.) can be taught how to care for the baby in the kangaroo position so they can give the mother relief when necessary.

HANDOUT: STEPS FOR COACHING MOTHERS ON KANGAROO MOTHER CARE POSITIONING

1. First review or explain what KMC is and obtain the mother's permission to demonstrate it.
2. Ask the mother to remove any jewelry around her neck and remove her bra.
3. Dress the baby in socks, a nappy and a cap. Be sure the nappy is the right size; if it is too large, urine can leak and cause the baby to become wet and cold. A nappy that is too large also reduces the area of skin-to-skin contact between the baby and the mother.
4. Place the baby in an upright position between the mother's breasts (Figure 4).¹

Figure 4: Position the baby for KMC



5. Secure the baby on to the mother's chest with a clean cloth (Figure 5).
6. Instruct the mother to put on a front-opened dress, or a blouse or top that opens at the front to allow the face, chest, abdomen, arms and legs of the baby to remain in continuous skin-to-skin contact with the mother's chest and abdomen (Figure 6).
7. Ask the mother to repeat the demonstration of Steps 2–5.
8. Instruct the mother to keep the baby upright when walking or sitting.

¹ Figures 1–3 adapted from: Buffington, S.T., Sibley, L.M., Beck, D.R., Armbruster, D.A. 2004. *Home Based Life Saving Skills Community Meeting 11: Baby Born Too Small*. Silver Spring, MD: American College of Nurse-Midwives.

Figure 5: Securely wrap the baby with a cloth tied around the mother



Figure 6: Put on loose clothing over the wrap



9. Advise the mother to continue KMC 24 hours/day; other family members can assist her by keeping the baby in KMC while she attends to personal needs such as bathing.
10. Show the mother different ways she can sleep in a position comfortable for her. Putting pillows on the side may help her from rolling over. Some mothers are comfortable in a half-sitting position. If the mother sleeps on a mat or mattress on a floor, show her ways to be comfortable. Examples of KMC sleeping positions when sleeping without a bed or pillows:
 - a. Position pillows against a wall or firm surface (be sure the wall or surface is not cold) to help support the mother's back, head and neck. If pillows are not available, substitutes could be sacks of flour or sugar or large bags of clothing.
 - b. The mother can sleep in a large, comfortable chair with feet elevated on a stool or other comfortable surface

Figure 7: Mother sleeping while practicing KMC



Figure 8: Fathers can do KMC too!



Figure 9: Father relaxing with baby in KMC²



² Source: WHO. 2003. *Kangaroo Mother Care A Practical Guide*.

HANDOUT: CHECKLIST FOR KANGAROO MOTHER CARE POSITIONING

Rate the performance of each step or task observed using the following rating scale:

1. Needs Improvement: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Competently Performed: Step or task performed correctly and in proper sequence (if sequence necessary)

| SKILLS CHECKLIST FOR KANGAROO MOTHER CARE POSITIONING | CASES OBSERVED | | | | |
|--|----------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| KEY STEPS | | | | | |
| 1. Greet the mother and make her comfortable. | | | | | |
| 2. Explain what you are going to do and encourage the mother to ask questions. | | | | | |
| 3. Dress the baby in nappy, hat and socks. | | | | | |
| 4. Instruct the mother to put on a front-opened top. | | | | | |
| 5. Place the baby upright on skin-to-skin between the mother's breasts in a frog-like position. | | | | | |
| 6. Secure the baby to the mother's chest: <ul style="list-style-type: none"> • Maintain support of the baby with the mother's hand. • Cover the baby with a cloth. • The top of the cloth should be under the baby's ear. • The bottom of the cloth is tucked under baby's buttocks. • Make sure the tight part of the cloth is over the baby's back (chest). • Baby's abdomen should not be constricted. • Baby should be able to breathe. • Tie the cloth securely at the mother's back. | | | | | |
| 7. Cover the baby with a blanket or shawl and let the mother tuck in at the front or side (under the arms). | | | | | |
| 8. Ensure the mother is able to perform the same process to position the baby. | | | | | |

Wrapping the infant

There are several types of cloths or wraps that may be used to secure the infant. Use whatever is available and appropriate for your setting. However, keep in mind that **the cloth must be clean**. It must also be able to secure the infant safely for an extended period of time but allow for enough breathing and some movement. This is especially important for small infants. Be sure not to cover the face. Examples of different types of wraps are listed below:

| | |
|----------|--|
| Bolivia | T-shirt secured with a belt or binder around the waist |
| Malawi | Locally made, multi-purpose cloth with open blouse or dress |
| Colombia | Lycra wrap, a synthetic material that is elastic, but firm |
| India | Sling or binder with open blouse, sari or shawl |
| Zimbabwe | Locally made cloth to wrap the baby, with open blouse or dress |
| USA | Loose-fitting blouse or sling |

As you can see, there are many ways to carry the baby in the KMC position. You may also get good tips from mothers who have done KMC. Locally available wraps or cloths are best as they are both affordable and sustainable. Whatever type of wrap is used, be sure that there is maximum skin-to-skin contact between the mother and baby.

SESSION 2.3: NUTRITION AND GROWTH MONITORING DURING KANGAROO MOTHER CARE

HANDOUT: FEEDING TECHNIQUES DURING KANGAROO MOTHER CARE

The LBW baby should be fed breast milk exclusively. If feasible, immediate and exclusive breastfeeding is recommended for all babies. Initiate feeding as soon as possible, preferably immediately after birth. However, breastfeeding LBW babies can be tiring and frustrating at times, so mothers will need a lot of support and encouragement to properly feed their babies.

Newborns must be fed on demand—at least every 2 to 3 hours. However, the mother may need to wake her baby to be sure that he or she is getting adequate feeds. LBW and preterm babies may need to be fed as often as every 1.5 to 2 hours. If the baby cannot breastfeed, another feeding method using breast milk will have to be selected. The most important consideration is the baby's ability to suck, swallow and coordinate swallowing and breathing, as outlined in the following chart:

| CRITERIA | RECOMMENDED FEEDING METHODS | REMARKS |
|--|--|---|
| If there is no sucking reflex or the baby is not able to swallow and to coordinate swallowing and breathing: | Give EBM by tube feed (gastric tube). | Tube feeds can be done when baby is in the KMC position. |
| If the baby is able to drink from a cup: | Give EBM with a cup. OR Express breast milk directly into the baby's mouth. OR Feed with a syringe or dropper. | Transition gradually from tube feeding to cup feeding—start with tube feeds and cup feeding and gradually reduce the number of tube feeds. Wrap the baby with a warm blanket when he is taken out of KMC for cup feeds. |
| If the sucking reflex is established, signs of readiness for breastfeeding are the baby moves the tongue and mouth and is interested in sucking: | Breastfeed exclusively. | Transition gradually from cup feeds to breastfeeding. From time to time, let the baby lick the nipple first, then suckle a little bit while continuing cup feeding, and breastfeed when the baby can suck well and effectively. |

HANDOUT: QUANTITY AND FREQUENCY OF FEEDING

For babies who are not able to suck, the frequency of feeding depends on the quantity of milk the baby can tolerate per feed and the required daily amount according to weight. As a guide, the amount per feed for small newborn preterm babies should be steadily increased as follows:³

- Up to Day 5, slowly increase the total amount and the amount per feed (per tables below) to help the newborn get used to tube or cup feeding.
- After Day 5, steadily increase the quantity to achieve the amount required for the baby's age as outlined in Tables 1 and 2.
- By Day 14, the baby should take 200 ml/kg/day, which is the amount required for steady growth.

Very small babies should be fed every 2 hours, larger babies every 3 hours. If necessary, wake the mother and baby during the day and night to ensure regular feeding.

Refer any baby with abdominal distension, vomiting, poor or weak suck (after previously sucking well) or any other danger signs. For feeding quantity for sick babies, refer to local protocol or see *Managing Newborn Problems*⁴ by WHO.

Remember: Preterm babies may not feed on demand, so they may need to be fed on a schedule.

Table 1: Amount of milk (or fluid) needed per day by birth weight and age

| Birth Weight | Feed Every | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Days 6–13 | Day 14 |
|--------------|------------|----------|----------|----------|-----------|-----------|---------------|---------------|
| 1,000–1,499g | 2 hours | 60 ml/kg | 80 ml/kg | 90 ml/kg | 100 ml/kg | 110 ml/kg | 120–180 ml/kg | 180–200 ml/kg |
| ≥1,500g | 3 hours | | | | | | | |

³ Source: WHO. 2003. *Managing Newborn Problems: A Guide for Doctors, Nurses, and Midwives*.

⁴ Ibid., pages F-24 to F-30.

Table 2: Approximate amount of breast milk needed per feed by birth weight and age

| Birth Weight | Number of feeds | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Days 6–13 | Day 14 |
|--------------|-----------------|----------|----------|----------|----------|----------|-------------|----------|
| 1,000g | 12 | 5 ml/kg | 7 ml/kg | 8 ml/kg | 9 ml/kg | 10 ml/kg | 11–16 ml/kg | 17 ml/kg |
| 1,250g | 12 | 6 ml/kg | 8 ml/kg | 9 ml/kg | 11 ml/kg | 12 ml/kg | 14–19 ml/kg | 21 ml/kg |
| 1,500g | 8 | 12 ml/kg | 15 ml/kg | 17 ml/kg | 19 ml/kg | 21 ml/kg | 23–33 ml/kg | 35 ml/kg |
| 1,750g | 8 | 14 ml/kg | 18 ml/kg | 20 ml/kg | 22 ml/kg | 24 ml/kg | 26–42 ml/kg | 45 ml/kg |
| 2,000g | 8 | 15 ml/kg | 20 ml/kg | 23 ml/kg | 25 ml/kg | 28 ml/kg | 30–45 ml/kg | 50 ml/kg |

Tables 1 and 2 adapted from: WHO. 2003. *Kangaroo Mother Care: A Practical Guide*. .

Encourage the start of breastfeeding as soon as the baby shows signs of readiness. At the beginning, the baby may not suckle enough, but even short sucking stimulates milk production and helps the baby get used to sucking. Keep reassuring the mother and helping her with breastfeeding the baby. As the baby grows, gradually replace scheduled feeding with feeding on demand.

When the baby moves on to exclusive breastfeeding, and measuring the amount of milk intake is not possible, weight gain remains the only way to assess whether feeding is adequate.

HANDOUT: FEEDING LOW BIRTH WEIGHT BABIES WHEN THE MOTHER IS HIV-POSITIVE

Breast milk is always the best food for a newborn—especially the LBW baby who is more likely to develop health problems. The baby of an HIV-infected mother has about a 15% chance of getting the HIV infection through breastfeeding. The risk of HIV infection is lower if:

- The baby breastfeeds exclusively.
- The mother seeks immediate care for cracked nipples/breast infection.
- The baby is breastfed for only a few months.
- The mother and baby are given antiretroviral medications.

The risk of HIV is greater:

- The longer a baby breastfeeds
- If a mother becomes infected while breastfeeding
- If the mother has mastitis or cracked nipples or if there is oral thrush or intestinal infections in the baby
- If the mother shows signs of AIDS
- If the baby is given mixed feeds (i.e., breast milk and other foods or liquids)

Health providers must give women all available information on the risks and benefits of the different feeding options and then support the women's feeding choice. According to the latest UN policy statement on HIV and infant feeding (2001):

“When replacement feeding is acceptable, feasible, affordable, sustainable, and safe [AFASS], avoidance of all breastfeeding by HIV infected mothers is recommended. Otherwise, exclusive breastfeeding is recommended during the first months of life. To minimize HIV-transmission risk, breastfeeding should be discontinued as soon as feasible, taking into account local circumstances, the individual woman's situation, and the risks of replacement feeding (including infections other than HIV and malnutrition). When HIV-infected mothers choose not to breastfeed from birth or stop breastfeeding later, they should be provided with specific guidance and support for at least the first 2 years of the child's life to ensure adequate replacement feeding. Programs should strive to improve conditions that will make replacement feeding safer for HIV-infected mothers and families.”

If replacement feeding is AFASS for the LBW baby, give the appropriate formula using cup feeding—in the same amounts and frequency as recommended for small babies who are cup fed with breast milk.

Never use sweetened condensed milk, skimmed milk, fruit juices, sugar water or diluted porridges for replacement feeding. These foods do not provide enough energy and micronutrients.

If even one of the AFASS criteria is not met, health workers should recommend safer breastfeeding practices including:

- Initiate feeding with breast milk early, with a cup or breastfeeding, depending on the baby's ability to swallow or to suck at the breast.
- Feed only breast milk, with no other foods, fluids or even water.
- Feed breast milk on demand and follow the same recommendations as for other babies.
- Counsel the woman to prevent or seek prompt treatment for oral lesions in the LBW baby and for any breast problems. Breast problems include cracked nipples, engorgement, breast abscess and mastitis.
- Avoid mixed feeding. The baby who receives other foods in addition to breast milk before 6 months gets sick more often and may have an increased risk of getting HIV.
- Follow safer sex practices.

Description of the AFASS Criteria

Acceptable: The mother perceives no barrier to replacement feeding. Barriers may have cultural or social reasons, or be due to fear of stigma or discrimination. According to this concept the mother is under no social or cultural pressure not to use replacement feeding, and she is supported by family and community in opting for replacement feeding, or she will be able to cope with pressure from family and friends to breastfeed, and she can deal with possible stigma attached to being seen with replacement food.

Feasible: The mother (or family) has adequate time, knowledge, skills and other resources to prepare the replacement food and feed the infant up to 12 times in 24 hours. According to this concept the mother can understand and follow the instructions for preparing infant formula and with support from the family can prepare enough replacement feeds correctly every day, and at night, despite disruptions to preparation of family food or other work.

Affordable: The mother and family, with community or health-system support if necessary, can pay the cost of purchasing/producing, preparing and using replacement feeding, including all ingredients, fuel, clean water, soap and equipment, without compromising the health and nutrition of the family. This concept also includes access to medical care if necessary for diarrhea and the cost of such care.

Sustainable: Availability of a continuous and uninterrupted supply and dependable system of distribution for all ingredients and products needed for safe replacement feeding, for as long as the infant needs it, up to one year of age or longer. According to this concept there is little risk that formula will ever be unavailable or inaccessible, and another person is available to feed the child in the mother's absence, and can prepare and give replacement feeds.

Safe: Replacement foods are correctly and hygienically prepared and stored, and fed in nutritionally adequate quantities, with clean hands and using clean utensils, preferably by cup. This concept means that the mother or caregiver:

- has access to a reliable supply of safe water (from a piped or protected-well source)
- prepares replacement feeds that are nutritionally sound and free of pathogens
- is able to wash hands and utensils thoroughly with soap, and to regularly boil the utensils to sterilize them
- can boil water for preparing each of the baby's feeds
- can store unprepared feeds in clean, covered containers and protect them from rodents, insects and other animals.

Source: WHO. 2004. What Are the Options? Using Formative Research to Adapt Global Recommendations on HIV and Infant Feeding to the Local Context.

HANDOUT: MONITORING GROWTH IN A LOW BIRTH WEIGHT BABY

Weigh babies daily and check weight gain to assess:

- Adequacy of milk intake
- Rate of growth

There are no universally accepted recommendations regarding frequency of growth monitoring for LBW and preterm infants.

Growth monitoring, especially for daily weight gain, requires accurate and precise scales and a standardized weighing technique. Spring scales are not precise enough for frequent monitoring of weight gain when weight is low, and may lead to wrong decisions. Analogue maternity hospital scales (with 10-gram intervals) are the best alternative. If such accurate and precise scales are not available, do not weigh KMC infants daily but rely on weekly weighing for growth monitoring. Record weight on a chart and assess weight gain daily or weekly.

Small babies lose weight in the first few days after birth, as their bodies lose extra water in the transition from the amniotic fluid environment. It is normal for babies to lose up to 10% of birth weight. Therefore, weight loss of up to 10% in the first few days of life is considered acceptable.

After this initial weight loss, newborn babies begin to gain weight steadily and usually regain birth weight 7–14 days after birth. No weight loss is acceptable, however, after this initial weight loss period.

Babies should be assessed for weight gain twice weekly. Schedule these assessments on the same 2 days each week until the baby is gaining weight for three consecutive assessments. Then weigh the baby weekly for as long as the baby is hospitalized. WHO recommends desirable weight gain as follows:

- A minimum daily weight gain of 15 grams per kilogram per day over 3 days (after the initial period of weight loss);
- After birth weight has been regained, weight gain during the first 3 months should be:
 - 150 to 200 grams per week for babies weighing less than 1.5 kg (i.e., 20 to 30 grams per day)
 - 200 to 250 grams per week for babies weighing 1.5 to 2.5 kg (i.e., 30 to 35 grams per day)
- Steady and appropriate weight gain is considered a sign of good health in a newborn infant following the initial few days of weight loss. Poor weight gain or no weight gain indicates a problem that must be addressed.

If there is weight loss or if weight gain is not adequate for 3 days (i.e., gaining less than 15 grams/kg per day) then:

- If cup or tube feeding, assess the 24-hour volume of feeding. Is it sufficient? Could the baby take more?

- If breastfeeding, assess if there are problems with the breast or the technique.
- If breastfeeding, assess the frequency and the duration of feedings for the past 24 hours.
- Ensure that the infant is being fed around the clock (especially at night).
- Check that night feeds are given.

When assessing weight loss, it is also important to:

- Ensure that the baby is in KMC continuously.
- Advise the mother to increase the frequency of feeds for the baby.
- Feed the baby on demand.
- Look for danger signs or specific conditions that can cause poor weight gain, such as poor suckling, lack of warmth (e. g., long periods of wet nappies), infections and congenital malformations.

Figure 10: Mother resting with baby in KMC position⁵



It is also critical to remember that continuous skin-to-skin contact is tiring for mothers. They may be reluctant to continue KMC after discharge if there is no assistance from the family at home. Family members such as the husband or the grandmother should be included in the KMC talks so that they can support the mother at home.

⁵ Source: WHO. 2003. *Kangaroo Mother Care A Practical Guide*.

CASE STUDIES

Case 1

Miriam delivered a baby boy 1 week ago with a birth weight of 1,800 grams. The baby has lost 150 grams and is breastfeeding about 6 times/day. He is not on any supplemental feeds.

- A. What are the possible problems?
- B. How would you proceed?

Case 2

Mrs. Dale is a young mother of one preterm baby named Sara. Sara was admitted and managed at the Kangaroo Care Unit for 10 days because she was a very tiny baby weighing 1,200 grams. Mrs. Dale was an orphan and was brought up by her grandmother. Her grandmother did not assist her during her stay at the KMC unit.

At the time of discharge, Mrs. Dale was told that she should continue with KMC at home and should come for KMC follow-up at the unit. Mrs. Dale lives with her 30-year-old sister-in-law and her grandmother, who is elderly and unable to assist her. Mr. Dale is supportive of KMC, but works out of town and comes home only on weekends. When Mrs. Dale came for her first KMC follow-up, she looked tired, and baby Sara appeared to have lost weight. During history taking, Mrs. Dale revealed that she was tired of KMC and did not want to continue doing it at home. She mentions that her grandmother and neighbor suggest she carry the baby on her back as is the tradition.

- A. Based on the information provided, what could be the problems affecting Mrs. Dale and Baby Sara, and why?
- B. Based on the identified problems, what will be your plan of care (action) for Sara, and why?

Two weeks later, Mrs. Dale brought Sara for continued KMC follow-up visits. The health worker at the KMC unit examined Sara. It was established that Sara had gained weight and her mother was happier too. She has become friends with a mother who provided KMC to her baby last year.

UNIT 3: COUNSELING ON KANGAROO MOTHER CARE

GENERAL OBJECTIVE

At the end of the session, learners will be able to counsel mothers on KMC.

SPECIFIC OBJECTIVES

1. Define counseling.
2. Describe the principles of interpersonal communication.
3. Explain the advantages of KMC.
4. Describe key KMC messages for the postpartum family and demonstrate appropriate responses in a simulated or actual counseling situation.
5. Counsel the mother about KMC using the skills checklist.

LIST OF SESSIONS

Session 3.1: Definition and Principles of Counseling

Session 3.2: Common Kangaroo Mother Care Counseling and Health Education Topics

HANDOUTS

- Definition of Counseling (3.1)
- Principles of Counseling and Interpersonal Communication (3.1)
- Advantages of Kangaroo Mother Care (3.2)
- Postpartum Kangaroo Mother Care Counseling: Key Messages for the Mother and Other Caretakers (3.2)
- Common Concerns about Kangaroo Mother Care and Sample Solutions (3.2)
- Skills Checklist: Counseling the Mother in Kangaroo Mother Care (3.2)

SESSION 3.1: DEFINITION AND PRINCIPLES OF COUNSELING

HANDOUT: DEFINITION OF COUNSELING

Counseling is the process of helping an individual or a group of individuals to reach their own decision by providing appropriate, accurate and **unbiased** information and emotional support.

Counseling is an ongoing process that is initiated at the time of admission, continues in the ward and upon discharge, and continues at home and in the community. Counseling involves giving health advice or guidance and/or helping mothers to solve health-related problems. It can also include helping mothers make decisions about themselves or their babies' health. In this context, it is giving advice and guidance to mothers or guardians who are practicing or are about to start practicing KMC.

Counseling also involves not only dialogue but also demonstration of skills needed to practice an identified behavior such as KMC. Dialogue will include encouraging the mother and her relatives to ask any questions they may have and providing answers to all the questions accurately and honestly. Skills such as positioning of the baby, expressing breast milk, cord care, breastfeeding, and feeding by cup or nasogastric tube should not only be explained to the mother and guardian but demonstrated as well.

Who should provide KMC counseling?

Depending on the facility, there may be varied levels of caregivers for both babies and mothers. And it is not always possible for KMC mothers to have continuity of care with the same providers throughout their stay. It is critical, however, that mothers and families receive appropriate and technically sound KMC counseling and advice for the care of their LBW babies during their facility stay or when returning for follow-up visits.

The individuals who provide KMC counseling should therefore be health workers who have training and experience in caring for LBW babies and mothers who are practicing KMC. Ideally, because counseling is an ongoing process, all staff involved in the care of mothers and newborns should have some level of training on KMC. Staff includes midwives, nurses, physicians and ancillary staff such as ward assistants and other facility or community providers. This training should be standardized so that personnel in all facilities receive the same information and opportunity for practicing the skills appropriate for their roles. Training can take the form of workshops, seminars or on-the-job training arrangements.

Peer counseling is also very effective and can be done by mothers experienced in KMC. This can take place in a group setting within the facility or community. Individual peers or peer groups can encourage and support other mothers and families in many instances, such as those who are new at KMC or who are adjusting to KMC at home.

HANDOUT: PRINCIPLES OF COUNSELING AND INTERPERSONAL COMMUNICATION

Interpersonal communication is the face-to-face verbal and nonverbal exchange of information or feelings between two people.

Counseling is a person-to-person interaction in which the counselor provides adequate information to enable the client to make an informed choice about the course of action that is best for her or him.

Basic counseling principles

- **Receptive atmosphere:** The counselor should greet the client politely and make him/her feel comfortable. She/he should show interest and pay attention to the client's verbal and nonverbal communication.
- **Informed decision:** The counselor should provide clear and adequate information for the client to understand. The counselor should be unbiased and explain all the benefits, risks and any side effects, advantages and disadvantages.
- **Confidentiality:** The counselor protects the client's privacy by keeping information confidential unless the client gives permission.
- **Nonjudgmental:** The client's attitude and behavior should be assessed objectively without preconceived ideas.
- **Freedom of expression:** The client must be allowed to speak her mind even if it means not agreeing with the counselor. The client should be encouraged to ask questions and express her concerns.
- **Communication without emotional involvement:** The counselor should be responsive and empathetic to the client's feelings without getting emotionally involved.
- **Privacy:** The place for counseling must be free from noise and disturbances from other people. No one else should be able to see or hear what is being said or done between the client and provider.
- **Recognize limitations:** The counselor should be honest when he/she does not have the information or answer to a client's question. The counselor must recognize his/her limitations and refer when necessary.

SESSION 3.2: COMMON KANGAROO MOTHER CARE COUNSELING AND HEALTH EDUCATION TOPICS

HANDOUT: ADVANTAGES OF KANGAROO MOTHER CARE

- Is an efficient way of maintaining the correct body temperature of the newborn.
- Promotes breastfeeding, leads to a higher rate and longer duration of breastfeeding.
- May increase the quantity of expressed breast milk for cup feeding or gastric tube feeding.
- Babies gain weight faster (grow faster). This is due to the fact that babies receiving KMC may easily feed on demand and have lower caloric expenditures to maintain body temperature (i.e., lower metabolic rate).
- Decreases mortality of preterm and LBW babies because it reduces apneic attacks, irregular breathing and hypothermia. This is achieved through the action of the mother's heart, respiration and voice, which act as stimulants to the baby's breathing control center in the brain.
- Fewer infections; serious infection is less common in the baby.
- Increases mother's confidence in handling her small newborn and improves bonding.
- Reduces hospitalization of mother and baby (i.e., early discharge).
- Reduces costs (it is less expensive than incubator care), both to the hospital facility and to the mother/guardian.
- Requires less equipment.
- Increases facility's ability to cope with higher numbers of underweight and preterm newborns as less nursing staff is required.

HANDOUT: POSTPARTUM KANGAROO MOTHER CARE COUNSELING: KEY MESSAGES FOR THE MOTHER AND OTHER CARETAKERS

Mothers may have many questions when first learning about KMC or beginning to practice it. During post-delivery counseling, you can help mothers and their families to feel comfortable and confident while practicing KMC. Here are the main points to be sure the mother and her family understand. Sample responses are in *italics*.

When to start KMC

Within minutes after birth, your baby will be put in direct skin-to-skin contact with you. This means that the birth attendant will place the baby on your chest. This is a good opportunity to feed your baby for the first time. After the first feeding, the attendant can help you to wrap the baby in the KMC position. There is no need to wait; your baby can benefit from the warmth of your body immediately after birth!

How long to keep the baby in KMC

You should practice KMC all day and night, every day. Do this until your baby does not want to be in the position any longer. Most babies will stay in KMC for a few weeks. Babies who are born small may stay in KMC for up to 2 months.

It may take a few days for you and your baby to get used to being skin-to-skin all the time, but you will both adjust. If needed, have a family member provide KMC care for the baby during short periods so that you can rest.

How to sleep with the baby in KMC position

I will show you how to sleep comfortably with your baby. You may need a few extra pillows to help keep you slightly upright. Here are a few pictures to show you some examples. Let's try one or two of these ways. You can practice them later to find which is most comfortable for you.

Signs that the baby is ready to stop KMC

When the baby starts to wiggle away from the skin-to-skin position or push away from your body when you try to wrap the cloth around you, he/she may be ready to stop KMC. The baby may also become fussy or restless and try to kick out of the skin-to-skin position. When you begin weaning the baby from KMC, make sure the baby still stays warm when not skin-to-skin. If the baby becomes cold easily, you may need to continue KMC for a few more days or weeks. Remember, warmth is a very important need for all newborns.

Exclusive breastfeeding and on demand

For the first 6 months of life, your baby needs only breast milk. No other fluids are needed, not even water. Feeding the baby other things may make him sick. Feed your baby whenever he/she wants to eat. Most babies will want to feed about every 2–3 hours or at least 8–12 times in a day. Talk with the health worker/birth attendant if you have any questions about whether or not your baby is getting enough milk.

Feeding the baby in the KMC position

Feeding your baby in KMC takes a little practice. Let me show you how to feed your baby while he/she is still in skin-to-skin contact. It may help if we take the baby out of KMC the first time you practice feeding. In this way, I can help to show you how to make sure the baby is attaching to your breast in the best way.

When and how other family members can help

Keeping the baby in the KMC position will be possible most of the time. However, there will be times when it is uncomfortable or not advisable to continue KMC for short periods. It is at those times that your partner or another family member can help you. Some examples of these times may include:

- *When you are tending to personal needs such as bathing or showering*
- *When you are near open flames or smoke during cooking*
- *When you are involved in a strenuous activity such as exercising*
- *When you must go out in cold or rainy weather*
- *When you are bathing your other children or other instances when the newborn could get wet*
- *Any other situations that may interfere with the safety of the baby or the correct KMC position*

Remember that the small baby needs to be fed at least every 2 or 2½ hours. Therefore the time another family member helps you should not be longer than this.

Generally, it is not the best idea for young children to help with KMC. Young children become sick easily and can pass germs or illness to the newborn.

What to do when the mother or family member is sick

Explain that if the mother has a cold, she should continue KMC, but use a cloth over her nose/mouth until she is better. Family members in the household should do the same.

If the mother has another illness or problem (like flu or another illness), she can ask another family member to keep the baby in KMC while she seeks medical attention. When she feels better, she can resume KMC. If the illness or treatment does not interfere with her daily activities, she can continue KMC.

If you or a family member becomes sick (e.g., with a cold), continue KMC. However, to avoid spreading the illness to your baby, cover your mouth and nose with a cloth. Wash your hands frequently to prevent spreading the cold. Family members should do the same and avoid contact with the baby as much as possible until they are better. Ask friends or neighbors who are sick to delay visiting you until they are better.

If you have a bad cold or illness with a fever, try to get another family to help you by holding the baby in KMC in between feedings. You can continue KMC when you are better.

If you have another illness or problem that cannot be passed to the baby, you may keep the baby in KMC while you seek medical attention. This is important so that you can continue to breastfeed on demand. Ask someone to go with you so that this person can keep the baby skin-to-skin while you are being examined or treated. If the illness or treatment does not interfere with your daily activities, you can continue KMC.

What to do when the baby has a problem

Emphasize here that KMC is not care for danger signs; review newborn danger signs with the mother and her family. Also review and help the mother to update her birth and complication readiness plan. You should know your country's policies on referral of sick babies (if applicable) and the referral facilities or skilled health providers in your community.

Signs that the baby is in danger of becoming seriously ill are called danger signs. If you or a family member recognizes any danger sign in your baby, you need to act right away! Don't delay in getting your baby the help he/she needs. We shall talk about the closest provider or health facility. I will also help you with an emergency plan in case you or your baby has any problems. Planning for this in advance helps to save time and get help as quickly as possible. When taking your baby to the health facility or health provider, keep him/her in KMC position if possible and continue to breastfeed while traveling.

Let's review the danger signs for all babies:

- *Breathing problems*
- *Baby feels too hot or too cold*
- *Baby has difficulty in breastfeeding*
- *Yellow color of the skin or eyes*
- *Redness, swelling and/or discharge of the cord or eyes*
- *Fits or convulsions*

If you or your baby experiences any danger sign, the nearest health care provider is: _____ (tell her the name and location of provider or health facility and any contact information if applicable or available). She will also need to know the hours of operation for the provider/facility. Review/update her birth and complications plan with her. If she does not have one, assist her with starting one. A complications plan does not have to be something written, but rather a set of actions that help to be ready for emergencies.

HANDOUT: COMMON CONCERNS ABOUT KANGAROO MOTHER CARE AND SAMPLE SOLUTIONS

The following chart provides sample responses to other concerns mothers may express as you coach them on KMC. You may want to add additional concerns and responses to share with your fellow learners.

| CONCERN | SOLUTION |
|---|--|
| KMC is tiring for the mothers. | Encourage family members to assist by putting the baby in the kangaroo position when the mother needs a break. |
| A strong belief in high technology may lead to some resistance by mothers because of the simplicity of KMC. | <p>Provide correct information about KMC to the mothers, their families and communities.</p> <p>Get support about KMC from facility providers and health leaders in the community.</p> <p>Ensure that facility providers are trained to know about and support KMC.</p> |
| There are cultural barriers to KMC. For example, grandmothers may not accept the method. In some traditions, the babies are separated from their mothers and the granny takes care of the baby during the first weeks. Also, in some cultures, babies are carried on the back rather than in front. | <p>Educate mothers, grandmothers and others in the community regarding the importance of keeping the mother and newborn baby together.</p> <p>Have providers from local facilities give community education talks about KMC.</p> <p>Have mothers/families who have used KMC share positive experiences and tips.</p> <p>Explain that babies will not be kept as warm when carried on the back as in the front. It is warmest between the mother's breasts.</p> |
| Mothers may be concerned about getting enough sleep if sleeping while maintaining KMC is uncomfortable. | Reassure mothers that they can sleep in many different positions while maintaining KMC. They should sleep in the position in which they are most comfortable. Show the woman how she can use pillows to rest in a half-sitting position on her back or side. |
| Mothers may be concerned about suffocating the baby while sleeping with the baby in the KMC position. | Reassure mothers that if the baby is secured in the proper KMC position while the mother is sleeping, there is no risk of smothering; it is actually very safe. There is no known experience of any baby smothering while in the KMC position. |

SKILLS CHECKLIST: COUNSELING THE MOTHER IN KANGAROO MOTHER CARE

| SKILLS CHECKLIST FOR COUNSELING THE MOTHER IN KANGAROO MOTHER CARE | | | | | |
|--|---|-----------------|--|--|--|
| STEPS | | SCORES (0 OR 1) | | | |
| Participant's Name: | | | | | |
| <p>Evaluator: Read the following case situation and instructions to the participant: “You are caring for a mother and her stable, low birth weight baby 3 hours after a normal birth. The baby was put skin-to-skin with the mother immediately after birth. The baby breastfed and received eye care and vitamin K during the first hour after birth. The mother did not receive any KMC counseling during pregnancy, but she is interested in KMC. You are ready to help the mother start KMC for her baby.”</p> <p>“Please explain the information you will give the mother and family about the reasons for KMC.”(Note: This information may be given in any order.)</p> | | | | | |
| 1. | Explain/review that KMC is the best way to care for LBW babies, starting as soon as possible after birth. | | | | |
| 2. | Explain/review that skin-to-skin care: <ul style="list-style-type: none"> • Helps stabilize the baby’s temperature • Keeps the baby near the mother’s breasts for feeding on demand • Promotes the mother’s milk let-down reflex and helps breastfeeding succeed • Promotes faster newborn weight gain • Protects the baby from injury and infection | | | | |
| 3. | Explain/review that the mother is the best person to provide KMC because her breast milk helps the baby resist infections they are exposed to. No one else can give the baby this specific protection from infections. | | | | |
| <p>Evaluator: Now say to the participant: “Please demonstrate teaching the mother to provide KMC for her baby.” The participant can use a combination of methods to teach the mother such as pictures, use of a doll and demonstration with the mother’s baby.</p> | | | | | |
| 4. | Explain that he or she will teach (or review with) the mother how to give KMC so that she can do it herself. | | | | |
| 5. | Wash hands and dry them on a clean towel, or air-dry them. Explain to the mother that she should also wash her hands before handling the baby; have mother wash her hands. | | | | |
| 6. | Demonstrate the next steps with a doll or the actual baby: Explain that the baby should be naked except for a nappy (diaper), hat and socks. Undress the baby except for a nappy and hat (and socks if desired). | | | | |
| 7. | Explain that the baby will be carried next to the mother’s skin, inside her warm clothing. | | | | |
| 8. | Help the mother position the baby upright between her breasts, feet below her breasts and hands above. | | | | |
| 9. | Help the mother position the baby so that they are chest-to-chest, with the baby’s head turned to one side. | | | | |

| SKILLS CHECKLIST FOR COUNSELING THE MOTHER IN KANGAROO MOTHER CARE | | | | | |
|---|-----------------|--|--|--|--|
| STEPS | SCORES (0 OR 1) | | | | |
| 10. Show the mother how to snugly wrap the baby to her body: Place the center of a long cloth or wrapper over the back of the baby on the mother's chest. Cross the ends of the cloth behind the mother's back, bring them back around, and tie them in the front, underneath the baby. | | | | | |
| 11. Show the mother how to tie the cloth or wrapper tightly enough to maintain skin-to-skin contact, loose enough so the baby can breathe easily. (Note: The baby should not slip out when the mother stands up or moves around.) | | | | | |
| 12. Show the mother how to support the baby's head by pulling the cloth or wrapper up to just under his outside ear. | | | | | |
| 13. Help the mother put on her own clothing (a loose dress, blouse or sari) over the baby. It should be open enough to allow easy breastfeeding and the baby's face should not be covered. | | | | | |
| Evaluator: Now say to the participant: "Please explain what other information about KMC you will give to the mother and family." (Note: This information can be given in any order.) | | | | | |
| 14. Advise the mother to go about her normal activities with the baby attached to her body in this way. | | | | | |
| 15. Explain how the mother can sleep comfortably with baby in the KMC position. Show her pictures of sleeping positions. | | | | | |
| 16. Show the mother how to loosen the cloth or wrapper to breastfeed on demand, at least every 2–3 hours. | | | | | |
| 17. Explain the importance of delayed bathing; show the mother how to give the baby a sponge bath. | | | | | |
| 18. Explain that other family members should supply whatever the mother and baby need without separating them, when possible. Explain that the mother will need a lot of support. | | | | | |
| 19. Explain when and how another family member may replace the mother briefly to provide KMC when needed. | | | | | |
| 20. Explain that the mother and family should provide KMC continuously 24 hours a day (day and night) until the baby no longer tolerates KMC. Explain signs that the baby no longer desires KMC (baby is restless in KMC position, fidgets/tries to get out of KMC position, etc.). | | | | | |
| 21. Explain what the mother should do if she or family members become sick with a minor illness (such as a cold). | | | | | |
| 22. Encourage the mother to ask questions throughout the demonstration; address her questions and concerns. | | | | | |
| 23. Review danger signs of all newborns and what to do; be sure the woman demonstrates her understanding of danger signs and what to do. | | | | | |
| Add up all of the "ones" (1) and write the total number in this box | | | | | |
| Date and signature of the person who scored the performance: | | | | | |

UNIT 4: DANGER SIGNS AND COMMON PROBLEMS OF LOW BIRTH WEIGHT BABIES

GENERAL OBJECTIVE

At the end of the session, learners will be able to identify and refer LBW babies with signs of medical complications.

SPECIFIC OBJECTIVES

1. Identify common problems in the low birth weight baby.
2. Explain management of common problems in LBW babies.
3. Recognize danger signs in LBW babies.
4. Explain the referral protocol for LBW babies with complications.

LIST OF SESSIONS

Session 4.1: Common Problems in Low Birth Weight Babies and Their Management

Session 4.2: Identifying Newborn Danger Signs

Session 4.3: Referral of Babies with Danger Signs

HANDOUTS

- Managing Common Problems of Low Birth Weight Babies (4.1)
- Newborn Danger Signs (4.2)
- Types of Referrals (4.3)
- Transportation (4.3)

SESSION 4.1: COMMON PROBLEMS IN LOW BIRTH WEIGHT BABIES AND THEIR MANAGEMENT

HANDOUT: MANAGING COMMON PROBLEMS OF LOW BIRTH WEIGHT BABIES

For further treatment details, refer to local IMCI protocol or see *Managing Newborn Problems: A Guide for Doctors, Nurses, and Midwives* (WHO).⁶

| PROBLEM | MANAGEMENT |
|---|---|
| Oral thrush | <ul style="list-style-type: none"> ● Swab the thrush patches in mouth with: <ul style="list-style-type: none"> – Gentian Violet (GV) 0.5% every 6 hours and continue until 2 days after lesions have cleared; OR – Nystatin (100,000 u/ml): give 1 ml by mouth every 6 hours; continue 2 days after lesions have cleared. ● Have the mother put GV or nystatin cream on her breasts after breastfeeding for as long as the baby is being treated. |
| Skin pustules** | <ul style="list-style-type: none"> ● Keep skin clean and dry: <ul style="list-style-type: none"> – Wash affected areas with antiseptic solution and clean gauze or cloth. ● Apply GV 0.5% to pustules every 6 hours (4 times/day) for 5 days. ● Observe for signs of sepsis. ● Count the number of pustules or blisters; determine whether they cover less or more than half of the body. ● If fewer than 10 pustules or covering less than half of body: <ul style="list-style-type: none"> – Treat with GV as above. If most of the pustules are still present after 5 days, but no signs of sepsis, refer or treat according to protocol. ● If 10 or more pustules/blisters or covering more than half of body: <ul style="list-style-type: none"> – Refer for antibiotic treatment according to local protocol. <p>For any amount of pustules with signs of sepsis, refer urgently for antibiotic treatment. Give starting dose of antibiotics according to local protocol.</p> |
| Eyes/eyelids red, swollen or draining pus discharge | <ul style="list-style-type: none"> ● Determine if/when eye prophylaxis was given: <ul style="list-style-type: none"> – Check for administration of prophylaxis according to clinical guidelines. – Silver nitrate (no longer used in most settings for newborn eye prophylaxis) can irritate eyes, causing redness (both eyes) and/or swelling; onset is usually 1–2 days after birth. ● Wash eyes with clean (boiled and cooled) water or saline and a clean swab, cleaning from the inside edge of the eye to the outside edge. Have the mother do this at least 4 times/day (every 6 hours) until the problem is cleared. ● If (both) eyes are draining pus: <ul style="list-style-type: none"> – Treat for gonorrhoea or according to local protocol. – If only one eye involved, may be due to a staphylococcus infection; treat according to local protocol. ● If discharge is watery, but later changes to pus, treat according to local protocol (may be chlamydia and/or gonorrhoea). <p>See WHO's <i>Managing Newborn Problems</i>, pages F-141 and F-142 for differential diagnosis of eye problems.</p> |

⁶ Much of the information in this chart is from: WHO. 2003. *Managing Newborn Problems: A Guide for Doctors, Nurses, and Midwives*.

| PROBLEM | MANAGEMENT |
|--|--|
| <p>Redness of cord**: (local or mild cord infection)</p> <ul style="list-style-type: none"> • No pus or foul-smelling discharge • Redness does not extend beyond 1 cm • No signs of sepsis | <ul style="list-style-type: none"> • Clean with soap and water or an antiseptic. • Dry with a clean cloth or leave to air dry. • Apply GV 0.5% solution. • Leave to dry. • Apply GV 4 times daily for 3 days. • Refer if no improvement after 3 days, condition worsens or if danger signs appear. |
| <p>Discharge from cord: (severe cord infection)</p> <ul style="list-style-type: none"> • Pus discharge, delayed cord separation <i>plus</i> • Redness and swelling extending beyond 1 cm • May have signs of sepsis or other danger signs | <ul style="list-style-type: none"> • Stabilize the newborn by making sure he is warm and has breastfed. • Refer the baby following local guidelines: <ul style="list-style-type: none"> – Give starting dose of antibiotics according to local protocol. |

** These conditions may spread to the blood stream and lead to sepsis. Sepsis is an infection affecting the whole body. The infection may be in the blood (septicemia) or in one or more organs of the body. Organisms that cause sepsis may enter the body during pregnancy, labor and delivery, or after birth. They may spread in the body from an infection of the skin, cord or other organs. Sepsis is a serious illness and can quickly cause death in the newborn. Prompt treatment with antibiotics is therefore critical. Signs of sepsis include:

- Poor or no feeding (weak suck) after baby has previously fed well
- Lethargy or floppiness (including drowsiness or reduced activity)
- Loss of consciousness
- Abnormal body temperature that does not respond to treatment
- Convulsions
- Abdominal distention and/or vomiting
- Maternal history of uterine infection or fever
- Ruptured membranes for more than 12 hours before birth
- Mother had prolonged labor
- History of difficult or complicated labor or birth (including fetal distress)

SESSION 4.2: IDENTIFYING NEWBORN DANGER SIGNS

HANDOUT: NEWBORN DANGER SIGNS

Danger signs pose a serious problem in the newborn. Many babies die due to illnesses that present with these danger signs. To prevent such deaths, the mother and family need to recognize the danger signs so they can seek attention in a timely manner. Many times caregivers do not recognize these signs and delay in getting appropriate health care. Similarly, health providers need to know and recognize danger signs in the newborn to be able to manage and/or refer the baby appropriately.

It is crucial to minimize delays in identifying danger signs and in referring the baby to an appropriate facility; delays often cost the lives of innocent babies. There are four types of delays widely recognized as contributing to neonatal mortality:

- Delay in recognizing danger signs
- Delay in deciding to seek health care
- Delay in reaching the health facility (due to lack of transport)
- Delay in receiving appropriate care after arriving at the health facility

The following are danger signs that a newborn baby may present with. Remember: Regardless of a baby's weight, the newborn danger signs remain the same:

- Poor feeding or not sucking*
- Hypothermia in spite of efforts to re-warm
- Fever
- Convulsions
- Breathing problems: apnea, retractions, grunting, flaring, cyanosis
- Lethargy (excessive sleepiness, reduced activity)**
- Jaundice***
- Redness, swelling and discharge from the eyes, cord and skin

*For preterm babies, especially those less than 34 weeks gestation, poor sucking may be “normal.” For term babies, poor feeding is an obvious danger sign. It should be noted that, irrespective of gestational age, apparent decline in the level of the baby's interest in or ability to suck/feed is a serious danger sign.

**Preterm babies sleep more and are less active than term babies. A notable decline in activity or increased sleepiness from previous days should be regarded as a worrisome danger sign in a preterm baby.

***There are two types of jaundice in newborns: Physiologic jaundice usually occurs after day two of birth and clears within 1 week. Pathological jaundice is the type that occurs within the first 24 hours of birth and persists beyond 2 weeks; bilirubin levels rise rapidly and the condition requires urgent attention.

A baby who is losing weight or gaining less than 15 grams/kg per day for at least 3 consecutive days should be re-evaluated for possible problems and be treated for them. If there is still no improvement, refer to the hospital so that management can be carried out by a clinician (pediatrician, doctor, clinical officer).

SESSION 4.3: REFERRAL OF BABIES WITH DANGER SIGNS

HANDOUT: TYPES OF REFERRALS

Referral from home

When counseling the mother and family about danger signs, advise them to go to the nearest health facility (health center, district hospital or central hospital).

Referral from a health center

Refer all LBW babies with danger signs to the nearest health facility with a higher level of care.

Advise health center staff to refer babies to the district hospital when they cannot manage the danger signs at their facility level. The health providers should stabilize the babies before they refer to the next level (i.e., the babies must be started on treatment if they have any infection and they must be protected from becoming hypothermic). Exclusive breastfeeding should be started before referral if possible.

Referral from within the health institution/maternity unit

Refer all babies who develop danger signs to the clinician/pediatrician for higher level of care within the facility, including:

- Newborn/low birth weight/preterm babies born at the maternity unit
- Babies within the KMC unit
- Babies within the nursery

HANDOUT: TRANSPORTATION

Every LBW and preterm baby or sick newborn referred to the hospital should be transported in the KMC position; transporting in this position can avoid hypothermia in the baby. If KMC is not possible, ensure that the baby is kept warm during transportation. The mother should continue to breastfeed if possible while in transit.

Keeping the baby warm during transport

- Be sure that the baby's head is covered.
- Wrap the baby in clean, dry and warm blankets or cloths; be sure not to cover the baby's face.
- Nappy should be clean and dry.
- At a minimum, the baby should be dressed in 1–2 more layers than it takes for an adult to stay warm.
- Keep the baby away from drafts (close vehicle windows).
- If it is not possible for the mother to hold the baby, make sure the surface where the baby is kept is warm and dry.

When to refer

- All babies with weight gain less than 15 grams/kg per day for at least three consecutive days
- All babies who are losing weight
- All babies with danger signs (e.g., diarrhea, difficulty in breathing, fever or reduced activity, and difficulty with feeding or poor suck)

Remember: Any baby who fails to gain weight after the exclusion or treatment of the common causes (oral thrush, rhinitis, severe bacterial infection) should be referred to a higher level of care for further investigation and treatment.

CASE STUDIES

Case 1

A mother in the KMC unit notices that her 1-week-old baby girl is having twitches. She had a birth weight of 1,500 grams and now weighs 1,450 grams. The mother is crying as she reports this to the KMC nurse. She asks if her baby is dying.

- A. What are the possible causes of twitches?
- B. How will you handle this situation?

Case 2

While doing evening rounds, the KMC unit nurse finds a mother sleeping with her baby in KMC, but the baby's face is jaundiced. She notes that the baby was born 5 days ago with a birth weight of 1,400 grams. She awakens the mother to inform her that she needs to examine the infant. Initial assessment reveals that the baby's face and chest are slightly jaundiced.

- A. What are the possible causes of jaundice in an infant of this age?
- B. How will you proceed?
- C. How will you counsel the mother?

Case 3

A 1-week-old baby girl with a birth weight of 1,800 grams, at 32 weeks gestation, has lost 150 grams, and is breastfeeding about 6 times/day. She is not on any supplemental feeds.

- A. What are the possible problems?
- B. How would you proceed?

UNIT 5: KANGAROO MOTHER CARE FOR LOW BIRTH WEIGHT BABIES (PRACTICE)

GENERAL OBJECTIVE

At the end of the session, learners will be able to demonstrate competency in the practice of KMC.

SPECIFIC OBJECTIVES

At the end of this practice session, participants will be able to:

1. Correctly admit a mother and baby to a KMC unit according to local protocol.
2. Assist mothers in properly positioning babies in KMC according to the skills checklist.
3. Demonstrate to mothers how to feed babies during KMC; this includes breastfeeding and feeding expressed breast milk with a cup or through gastric tube.

LIST OF SESSIONS

Session 5.1: Admitting a Low Birth Weight Baby to a Kangaroo Mother Care Unit

Session 5.2: Positioning for Kangaroo Mother Care

Session 5.3: Breastfeeding

Session 5.4: Expressing Breast Milk

Session 5.5: Cup Feeding

Session 5.6: Feeding through a Nasogastric Tube

HANDOUTS

- Checklist for Admitting a Low Birth Weight Baby to a Kangaroo Mother Care Unit (5.1):
 - Review this checklist and adapt before training or use local forms for this session.
- Checklist for Kangaroo Mother Care Positioning (5.2)
- Benefits of and Tips for Breastfeeding (5.3)
- Lactational Amenorrhea Method (LAM) (5.3)
- Proper Breast Attachment (5.3)
- Checklist for Observation of Breastfeeding (5.3)
- Steps for Expressing Breast Milk (5.4)
- Tips for Mothers: How should I feed expressed breast milk? (5.4)
- Checklist for Observation of Expressing Breast Milk (5.4)
- Benefits of Cup Feeding and How to Cup Feed (5.5)

- Details of Tube Feeding (5.6)
- Checklist for Insertion of Gastric Tube (5.6)
- Feeding Expressed Breast Milk by Gastric Tube (5.6)
- Checklist for Feeding Expressed Breast Milk by Gastric Tube (5.6)

SESSION 5.1: ADMITTING A LOW BIRTH WEIGHT BABY TO A KANGAROO MOTHER CARE UNIT

HANDOUT: CHECKLIST FOR ADMITTING A LOW BIRTH WEIGHT BABY TO A KANGAROO MOTHER CARE UNIT

Rate the performance of each step or task observed using the following rating scale:

1. Unsatisfactory: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Satisfactory: Step or task performed correctly in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR ADMITTING AN LBW BABY TO A KMC UNIT | | | | | |
|--|----------------|---|---|---|---|
| STEPS | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 1. Explain what you are going to do and encourage the mother to ask questions. | | | | | |
| 2. Dress the baby in nappy, hat and socks. | | | | | |
| 3. Review records (from labor ward or referral notes). | | | | | |
| 4. Perform the quick assessment of the baby's condition including color and vital signs: <ul style="list-style-type: none"> • Temperature (axillary, not rectal) • Respiratory rate • Heart rate • Verify sucking reflex (after checking to see if palate intact) | | | | | |
| 5. Weigh the baby. | | | | | |
| 6. Perform physical examination of the baby. | | | | | |
| 7. Communicate findings to the mother regarding the physical examination. | | | | | |
| 8. Counsel the mother about KMC:* <ul style="list-style-type: none"> • KMC initiation • Maintenance of KMC • Feeding • KMC positioning • Advantages of KMC • Danger signs • Family support | | | | | |
| 9. Document the following: <ul style="list-style-type: none"> • Enter baby's information in the LBW register and baby's file. • Chart vital signs. | | | | | |

* **NOTE:** Refer to handout on KMC discussions for information on initiation and maintenance of KMC (see Annex 2).

SESSION 5.2: POSITIONING FOR KANGAROO MOTHER CARE

HANDOUT: CHECKLIST FOR KANGAROO MOTHER CARE POSITIONING

Rate the performance of each step or task observed using the following rating scale:

1. Unsatisfactory: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Satisfactory: Step or task performed correctly in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR POSITIONING FOR KANGAROO MOTHER CARE | | | | | |
|--|----------------|---|---|---|---|
| STEPS | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 1. Greet the mother and make her comfortable. | | | | | |
| 2. Explain what you are going to do and encourage the mother to ask questions. | | | | | |
| 3. Dress the baby in nappy, hat and socks. | | | | | |
| 4. Instruct the mother to put on a front-opened top. | | | | | |
| 5. Place the baby upright, skin-to-skin between the mother's breasts in a frog-like position. | | | | | |
| 6. Secure the baby to the mother's chest: <ul style="list-style-type: none"> • Maintain support of the baby with the mother's hand. • Cover the baby with a cloth. • The top of the cloth should be under the baby's ear. • The bottom of the cloth is tucked under baby's buttocks. • Make sure the tight part of the cloth is over the baby's back (chest). • Baby's abdomen should not be constricted. • Baby should be able to breathe. • Tie the cloth securely at the mother's back. | | | | | |
| 7. Cover the baby with a blanket or shawl and let the mother tuck it in at the front or side (under the arms). | | | | | |
| 8. Ensure that the mother is able to perform the same process to position the baby. | | | | | |

SESSION 5.3: BREASTFEEDING

HANDOUT: BENEFITS OF AND TIPS FOR BREASTFEEDING

Mothers must be shown how to breastfeed their infants. They should be instructed on the importance of:

- Warmth
- Frequent breastfeeding
- Good nutrition
- Good hygiene, particularly handwashing
- Maintenance of upright position

It is possible to feed almost all LBW babies on their mothers' milk; a mother's milk is especially suited for her own baby.

Benefits of early feeding of low birth weight babies on breast milk

- Protects against illnesses and enhances the baby's immune system (antibodies)
- Results in superior rates of weight gain
- Reduces incidence of hypoglycemia
- Results in less dehydration
- Reduces incidence of diarrhea and vomiting
- Hastens gastric emptying

Figure 11: Mother Breastfeeding her baby



HANDOUT: LACTATIONAL AMENORRHEA METHOD (LAM)

Women who practice early and exclusive breastfeeding may be protected from becoming pregnant for up to 6 months. Because breastfeeding can help prevent ovulation and delay the return of menses, this is known as the Lactational Amenorrhea Method or LAM. Mothers who would like to use LAM to prevent pregnancy must be made aware of these important considerations. The following criteria must be met to practice LAM safely:

- Infant is less than 6 months of age:
 - On average, women who breastfeed ovulate by 7 months if they exclusively breastfeed for 6 months.
- Amenorrhea (menses has not returned):
 - Remember that many postpartum women can ovulate before their menses returns.
 - Fertility can return as early as 35 days after childbirth, but is unlikely if the woman is exclusively breastfeeding.
 - The likelihood of fertility is higher once menses returns.
- Exclusively or almost exclusively breastfeeding:
 - The risk of ovulating and becoming pregnant is higher if the baby is given fluid or foods other than breast milk.
 - Another family planning method must be used if the mother decides to introduce other foods or decrease the frequency of breastfeeding.
- If any of these three factors change, contraception is needed to prevent pregnancy:
 - Begin planning for a family planning method to transition to at 6 months.

Advantages of LAM

- Universally available
- Can be used immediately after childbirth
- No supplies or procedures needed
- Bridge to other contraceptives
- No hormonal side effects

Disadvantages of LAM

- No protection against STIs
- Effectiveness after 6 months reduces
- Exclusive breastfeeding may not be convenient for some women
- Small chance of mother-to-child transmission of HIV during breastfeeding if mother is HIV-positive

HANDOUT: PROPER BREAST ATTACHMENT

How can you tell if attachment is good?

- The baby's chin is touching the breast.
- The baby's mouth is wide open.
- The lower lip is turned outward.
- You can see more of the areola above the mouth than below it.

How can you tell if the sucking is good?

- There are slow deep sucks with some pauses.
- There is no coughing.
- The mother's breasts and nipples are soft after feeding.

Incorrect!

This baby is grasping only part of the nipple, which will be injured if she/he sucks this way

Figure 12a: Incorrect breast attachment: Baby grasping only part of the nipple



Incorrect!

This baby is grasping only the nipple, which will be injured if she/he sucks this way.

Figure 12b: Incorrect breast attachment: Baby grasping only the nipple



Correct!

This baby's mouth is wide open. She is grasping the areola and her chin is touching the breast.

Figure 12c: Correct breast attachment



What if the attachment and sucking are not good?

- Take the baby off the breast.
- Teach the mother to do this by putting her finger gently into the baby's mouth to break suction.
- Help the baby attach again.

Poor position, poor attachment or poor sucking can reduce the milk flow into the baby's mouth. This can cause inadequate nutrition for the baby, and also lead to sore or cracked nipples or engorgement in the mother.

Remember that small or preterm babies may not be able to attach or suck well. These babies will need to be cup or tube fed until they show signs of readiness to breastfeed.

Tips to help the mother with attachment

- Touch the baby's breast with the nipple.
- Wait for the baby's mouth to open.
- Move the baby onto the breast with the baby's lower lip below the nipple.
- Do not move only the baby's head but support the back of the neck and move the whole body.
- Make sure that the breast tissue does not block the baby's nose.
- Do not lean over the baby or bring your breast to the baby. Instead, bring the baby to the breast.

See "Tips to help a mother breastfeed her preterm baby" below.

TIPS TO HELP A MOTHER BREASTFEED HER PRETERM BABY

1. First position the baby for breastfeeding:
 - Loosen the cloth tied around you and your baby, so that you can position the baby for good attachment to the breast.
 - Be sure to keep the baby skin-to-skin and ensure that the baby is warm while you are feeding him or her.
2. Express a few drops of milk onto the nipple to help the baby start nursing.
3. Give the baby short rests during a breastfeed:
 - Feeding is hard work for the preterm baby.
 - Preterm babies have immature nervous systems and can be overwhelmed by noise, lights and activity.
4. If the baby coughs, gags or spits up when starting to breastfeed, the milk may be letting down too fast for the preterm baby. Teach the mother to:
 - Take the baby off the breast.
 - Hold the baby against her chest while he/she regains her breathing.
 - Put the baby back to the breast after the letdown of milk has passed.
 - If the baby does not have the energy or a strong enough suck reflex:
 - Teach the mother to express breast milk.
 - Feed the baby the expressed breast milk by cup.

HANDOUT: CHECKLIST FOR OBSERVATION OF BREASTFEEDING

*Note: Some preterm babies may not be able to achieve all of the attachment and sucking criteria. This checklist assumes that the baby is already stable and able to feed well.

Rate the performance of each step or task observed using the following rating scale:

1. Needs improvement: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Competently performed: Step or task performed correctly in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR OBSERVATION OF BREASTFEEDING | | | | | |
|---|----------------|---|---|---|---|
| STEPS | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 1. Greet the mother and make her comfortable. | | | | | |
| 2. Explain what you are going to do and encourage the mother to ask questions. | | | | | |
| 3. Ask the mother to put the baby to her breast and observe the baby feeding. | | | | | |
| 4. If the baby is in the KMC position, help the mother loosen the cloth around her and the baby as needed, while maintaining skin-to-skin contact. | | | | | |
| 5. Check for good positioning at breast: <ul style="list-style-type: none"> a. Baby's ear, shoulder and hip should be straight. b. Baby's face should be facing the breast with the nose opposite the mother's nipple. c. Baby's body should be held close to the mother. d. Baby's whole body should be supported. | | | | | |
| 6. Check for good attachment at the breast: <ul style="list-style-type: none"> a. Chin touching breast b. Mouth wide open c. Lower lip turned outward d. More areola visible above than below the mouth | | | | | |
| 7. Check for effective suckling: <ul style="list-style-type: none"> a. Slow, deep sucks b. Occasional short pauses c. Mother reports that breast feels softer after the feed | | | | | |
| 8. Document findings. | | | | | |

Adapted from: ENC Reference Manual.

SESSION 5.4: EXPRESSING BREAST MILK

All breastfeeding mothers should learn how to hand express breast milk (see checklist below). Mothers often develop their own style of hand expression once they have learned the basic principles.

There are several reasons why expressing breast milk can be useful:

- If your baby is born preterm or LBW, he/she may not be able to suck well.
- If your breasts are engorged and the baby has difficulty latching on.
- To maintain milk supply if you or your baby are sick.
- To have breast milk available if/when someone else needs to feed the baby.
- To reduce the risk of passing the HIV virus to your baby if you are HIV-positive.

HANDOUT: STEPS FOR EXPRESSING BREAST MILK

Figure 13a: Massaging the breast



Figure 13b: Expressing breast milk into a cup



Note that the cup is large for the purpose of illustration; an adult drinking cup or container is fine for expressing milk. The actual size of the cup used for feeding should be much smaller. Examples of cups for feeding the baby are:

- Medicine cups: small cups (usually made of plastic) used to dispense drugs in facilities. The capacity of such cups is about 30 ml.
- Small cups of not more than 60–90 ml. These will vary from place to place, but should not be as large as an adult drinking cup/glass.



HANDOUT: TIPS FOR MOTHERS—HOW SHOULD I FEED EXPRESSED BREAST MILK?

- You or someone else can feed your baby the expressed breast milk using a clean, open cup. The cup should be as small as possible, so if the milk was expressed into a larger cup, pour a little at a time into the cup to be used for feeding the baby.
- Avoid using bottles and nipples. They are difficult to clean and can cause your baby to become sick. They can also confuse the baby and discourage him or her from feeding on your breast.
- If the baby does not drink all of the expressed breast milk during a feeding, discard what is left in the cup.

Things to remember

- Always clean the utensils that you use to feed your baby with clean water and soap, and keep them covered.
- Wash your hands with clean running water and soap before and after expressing breast milk.
- Expressed breast milk can be stored for up to 6 hours at room temperature in a cool place (not more than 25 °C or 77 °F). It can stay up to 3 days in a refrigerator:
 - The baby may drink breast milk cool, at room temperature or warmed.
 - Gently re-warm the milk by placing the container under warm running water or in a bowl of warm water; do not let the water from the tap or the bowl touch the mouth of the container/cup.
- Either you or someone else can feed the baby using a clean, open cup. Even a newborn baby learns quickly how to drink from a cup.

Adapted from: WHO/AED Quality Assurance Project. July 2007. Brochure on expressed breast milk.

HANDOUT: CHECKLIST FOR OBSERVATION OF EXPRESSING BREAST MILK

Rate the performance of each step or task observed using the following rating scale:

1. Needs improvement: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Competently performed: Step or task performed correctly in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR OBSERVATION OF EXPRESSING BREAST MILK | | | | | |
|---|-------|---|---|---|---|
| STEP/TASK | CASES | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 1. Greet the mother and make her comfortable. | | | | | |
| 2. Explain what you are going to do and encourage the mother to ask questions. | | | | | |
| 3. Listen to what the mother has to say. | | | | | |
| 4. Wash your hands; also let the mother wash her hands. | | | | | |
| 5. Obtain a clean cup or bowl. | | | | | |
| 6. Demonstrate and then ask the mother to re-demonstrate the following: | | | | | |
| a) Put clean warm wet cloths on breasts for 5 minutes if engorged. | | | | | |
| b) Massage the breast from the outside toward the nipple to help the milk come down. | | | | | |
| c) Hold the breast with the thumb on top and other fingers below pointing away from the areola. | | | | | |
| d) Have the mother lean slightly forward so the milk will go into the container. | | | | | |
| e) Squeeze thumb and other fingers together, and move them toward the areola so the milk comes out. | | | | | |
| f) Press and release repeatedly (try using the same rhythm as the baby sucking). | | | | | |
| g) Move hands around the breast so milk is expressed from all areas of the breast. | | | | | |
| h) Express one breast until breast softens (usually at least 3–5 minutes). | | | | | |
| i) Express the other side and then repeat both sides. | | | | | |
| 7. Document findings. | | | | | |

SESSION 5.5: CUP FEEDING

HANDOUT: BENEFITS OF CUP FEEDING AND HOW TO CUP FEED

Cup feeding is using a cup to feed a baby with breast milk or other milk. It is used when it is not possible for the baby to suck at the mother's breast.

| BENEFITS OF CUP FEEDING VS. BOTTLE FEEDING | | |
|--|--------------|--------|
| REASON | TYPE OF FEED | |
| | CUP | BOTTLE |
| Easier for babies born too early | ✓ | X |
| Prepares a baby to breastfeed later (the mouth and jaw action of cup feeding are more like what is used to breastfeed): | ✓ | X |
| <ul style="list-style-type: none"> Exercises the back of the tongue, an important skill for breastfeeding | ✓ | X |
| <ul style="list-style-type: none"> Encourages a baby to stretch the tongue forward over the gums, helps with breastfeeding attachment | ✓ | X |
| Does not take a lot of baby's energy | ✓ | X |
| Baby can control the feed: how quick, how much, when to rest | ✓ | X |
| Breathing is easier, baby takes in more oxygen | ✓ | X |
| Does not require special equipment | ✓ | X |
| Preparation and clean up are easy | ✓ | X |
| Does not cause dental problems | ✓ | X |
| Makes switching to cup feeding easier after weaning | ✓ | X |

HOW TO CUP FEED

1. Hold awake baby sitting upright or semi-upright in your lap:
 - Support the baby's shoulders and neck with your hand, so you have control over the baby's head, OR
 - Hold baby in a "cuddle" against the chest with your left arm encircling the baby. The left hand can hold a saucer under the baby's chin to catch milk that spills.
2. Hold a small cup* of milk, half-filled, to the baby's lips:
 - Tip the cup so the milk just reaches the lips.
 - The cup should rest lightly on the baby's lower lip, and the edges of the cup should touch the outer part of the baby's upper lip.
3. The baby will become alert and open his/her mouth and eyes:
 - A LBW baby will start to take up the milk with the tongue.
 - A full-term or older baby will suck or sip the milk, spilling some of it.
4. **Do not pour the milk into the baby's mouth.** Keep the cup at the baby's lips, letting the baby take the milk.
5. When a baby has had enough, the baby will close its mouth and refuse to take more:
 - A baby who has not taken enough may take more next time, or
 - You may increase the frequency of feedings.
6. Measure the baby's intake over 24 hours, rather than at each feeding.
7. Fathers can cup feed too!

*Cups should be quite small—very often medicine cups or a plastic bottle cap are used. Do not use adult-sized cups.

Note: Feeding with a cup and spoon is also possible and is the standard in some settings. There are a few considerations when choosing cup and spoon: 1) the feeding is slower than with a cup alone; 2) more milk may be spilt; 3) the spoon must be small enough to allow the baby to sip milk since larger spoons may damage the baby's mouth; and 4) it is easier for the baby to breathe in milk (especially during force feedings).

Figure 14: Mother cup feeding her baby



SESSION 5.6: FEEDING THROUGH A NASOGASTRIC TUBE

HANDOUT: DETAILS OF TUBE FEEDING

Tube feeding is the process of introducing liquid food into the stomach by placing a tube down the infant's throat (or nasal passage) and esophagus. Tube feeding is used when the baby cannot yet swallow, or coordinate swallowing and breathing, tires too easily and does not get enough milk.

Criteria for tube feeding

- Infants who are too immature to suckle or cup feed, e.g., those less than 32 weeks gestational age
- Extremely small infants of less than 1,000 grams
- Infants who suck and swallow poorly

Method

A feeding tube is passed through the nose or mouth into the stomach. The tube is then secured to the infant's nose and head; otherwise, manipulation of the infant or tube could dislodge the tube into the esophagus or pharynx where any infusion of feed could lead to aspiration.

Feeding Schedule and Weaning

Frequency of feeding will depend on the quantity of milk the baby tolerates per feed and the required daily amount. Follow local protocol or see guidelines for quantity and frequency of feeds in Session 2.3.

Each day, attempt to feed the baby via the breast or cup. Sucking helps provide both comfort for hunger and oral gratification for the baby while stimulating milk production.

At first, the baby may suck only for short periods of time. Larger babies will get used to the breast or cup sooner than smaller ones. Depending on the size and health of the baby, the transition from tube to cup or breast may take up to a week or more.

As soon as the baby shows signs of readiness for breast or cup feeding, introduce the breast or cup once or twice a day, while continuing most feeds through the tube. Continue to reduce the amount of tube feeds until the baby takes at least three consecutive feeds via breast or cup. The tube can then be removed. Encourage the mother to gradually feed on demand (instead of scheduled feeds) once the tube is out.

Signs that the baby is ready to breastfeed

When the baby is put to the breast:

- The baby moves his/her mouth and tongue.
- The baby shows interest in sucking.
- The baby sucks and swallows milk.
- Swallowing and breathing are coordinated.

INSERTING A GASTRIC TUBE

Source: WHO. 2003. *Managing Newborn Problems: A Guide for Doctors, Nurses and Midwives*.

A gastric tube may be inserted via one nostril or the mouth. Insert the tube via the nostril if the baby is breathing regularly, using the smallest (narrowest) tube available. Insert the tube via the mouth if the tube is needed for feeding a baby with breathing difficulty, or if only a relatively large tube is available.

Supplies:

- Clean exam gloves
- Clean plastic tube or catheter appropriate for baby's weight:
 - If the baby weighs less than 2 kg, use a 5-F tube
 - If the baby weighs 2 kg or more, use an 8-F tube
- Writing pen and/or flexible measuring tape
- 3- to 5-ml syringe (for aspiration)
- Sterile or high-level disinfected syringe or funnel suitable for holding breast milk
- Cap for gastric tube (if the tube will be used for feeding)
- Adhesive strapping
- Tincture of benzoin (if available)
- Blue litmus paper or stethoscope

Procedure:

- Gather needed supplies.
- Wash your hands and put on clean exam gloves.
- Estimate the required length of tube:
 - Hold the tube so that it mimics the route that it will follow once inserted (i.e., from the mouth or tip of nostril to the lower tip of the ear lobe and then to the stomach, just below the rib margin); place a mark on the tube with a pen or piece of strapping.
 - Alternatively, estimate the distance using a flexible measuring tape, and mark the distance on the tube with a pen or piece of strapping.
- Flex the baby's neck slightly and gently pass the tube through the mouth or through one nostril to the require distance.*
- Never force the gastric tube into the nostril. If resistance is encountered, remove and start again.
- Secure the tube in position with adhesive strapping.
- If tincture of benzoin is available, apply to the skin first before applying the adhesive strapping.
- For nasogastric tubes: avoid pulling the tube taut against the nostril as this may injure the skin.

*For nasal catheters:

- If the nasal catheter is in place for administration of oxygen, insert the gastric tube through the same nostril if possible;
- If the tube does not easily slide into the nostril, try the other nostril;
- If the tube still does not easily slide into the nostril, use the oral route.

Confirming proper placement of the gastric tube

Confirm placement:

- Fill a syringe with 1–2 ml of air and connect it to the end of the tube. Use a stethoscope to listen over the stomach as air is quickly injected into the tube:
 - If a whistling sound is heard through the stethoscope as the air is injected, the end of the tube is correctly positioned in the stomach;
 - If a whistling sound is not heard, the tube is not inserted or positioned correctly. Remove the tube and repeat the procedure.

Alternatively, test the acidity of the aspirate:

- Note that this method is suitable only for babies more than 24 hours old or small babies (LBW or preterm);
- Use a syringe to aspirate some fluid and place a drop of fluid onto a strip of blue litmus paper:
 - If the litmus paper turns pink, the fluid is acidic and the tip of the tube is correctly positioned in the stomach;
 - If the litmus paper turns blue, the tip of the tube is not in the correct position. Remove the tube and repeat the procedure.

Replace the tube with another clean gastric tube after 3 days, or earlier if it is pulled out or becomes blocked. Clean the tube and high-level disinfect or sterilize it.

Figure 15: Measuring gastric tube for oral (A) and nasal (B) routes

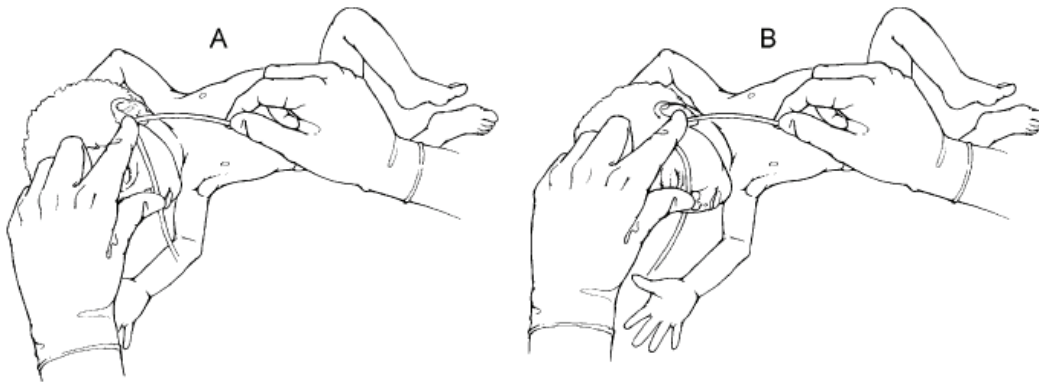
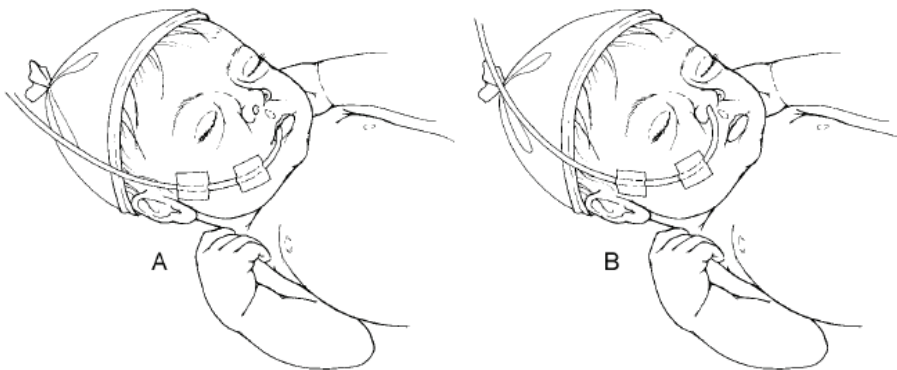


Figure 16: Inserting oral gastric tube



Figure 17: Securing oral (A) and gastric (B) tube into place



HANDOUT: CHECKLIST FOR INSERTION OF GASTRIC TUBE

Rate the performance of each step or task observed using the following rating scale:

1. Needs improvement: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Competently performed: Step or task performed correctly in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR INSERTION OF GASTRIC TUBE | | | | | |
|---|----------------|---|---|---|---|
| STEP/TASK | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 1. Gather all equipment for gastric tube insertion. | | | | | |
| 2. Greet the mother; explain what you are going to do. | | | | | |
| 3. Encourage the mother to ask questions and listen to what she has to say. | | | | | |
| 4. Wash your hands and put on clean examination gloves. | | | | | |
| 5. Estimate the required length of the tube: <ul style="list-style-type: none"> a. Hold the tube so that it mimics the route it will follow once it is inserted.* b. Place a mark on the tube with a pen or piece of strapping. c. Alternatively, estimate the distance using flexible measuring tape and mark the distance on the tube with a pen or strapping. *from the mouth or tip of the nostril to the lower tip of the earlobe and then to the stomach, just below the rib margin | | | | | |
| 6. Flex the baby's neck slightly and gently pass the tube through the mouth or nostril to the required distance. | | | | | |
| 7. Secure the tube in position with adhesive strapping: <ul style="list-style-type: none"> a. If tincture of benzoin is available, apply this to the skin first before applying the strapping. b. If a nasogastric tube is used, avoid pulling the tube taut against the nostril, as this may injure the skin. | | | | | |
| 8. Confirm correct placement of the tube: <ul style="list-style-type: none"> a. Fill a syringe with 1–2 ml of air and connect it to the end of the tube. Use a stethoscope to listen over the stomach as air is quickly injected into the tube: <i>For babies more than 24 hours old or small babies (<37 weeks) more than 48 hours old, you can confirm placement by testing acidity of the aspirate:</i> b. Use a syringe to aspirate some fluid, and place onto a strip of blue litmus paper. | | | | | |
| 9. Assist the mother to resume the KMC position; explain that you will show her how to feed the baby with the tube. | | | | | |
| 10. Demonstrates tube feeding to the mother and explains that she can participate in the next feeding under supervision. | | | | | |

| SKILLS CHECKLIST FOR INSERTION OF GASTRIC TUBE | | | | | |
|--|----------------|---|---|---|---|
| STEP/TASK | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 11. Follow required infection prevention practices for gloves: <ul style="list-style-type: none"> • Clean and high-level disinfect or sterilize syringe and funnel; and • Wash your hands. | | | | | |
| 12. Record gastric tube insertion on baby's chart. | | | | | |

HANDOUT: FEEDING EXPRESSED BREAST MILK BY GASTRIC TUBE

- Confirm that the tube is properly positioned.
- Assist the mother in positioning the baby for feeding.
- Determine the required volume of milk for the feed according to the baby's age (Session 2.3).
- Remove the plunger of a sterile or high-level disinfected (HLD) syringe (the syringe should be large enough to hold the required volume of milk) and connect the barrel of the syringe to the end of the gastric tube:
 - If a **HLD or sterile syringe is not available**, use a clean syringe (one that has been washed, boiled or rinsed with boiled water and air-dried).
 - If a **suitable syringe is not available**, use any other suitable clean funnel that connects snugly to the gastric tube.
- Pour the required volume of milk for the feed into the syringe with the “tip” of the syringe pointed downward.
- Have the mother hold the syringe 5–10 cm above the baby or suspend the tube above the baby and allow the milk to run down the tube by gravity. **DO NOT FORCE MILK THROUGH THE TUBE USING THE PLUNGER OF THE SYRINGE.**
- Using the method, each feeding should take about 10–15 minutes. If the flow of milk is too fast, slightly pinch the tube below the syringe to slow down the flow.
- When the feeding is finished, remove, wash and high-level disinfect or sterilize the syringe. Cap the tube until the next feeding.
- Progress to cup feeding when the baby can swallow without coughing or spitting milk. This could be as little as 1–2 days or as long as 1 week.
- Replace the gastric tube with another clean gastric tube after 3 days, or earlier if it becomes blocked or is pulled out. Clean and high-level disinfect the tube or sterilize it.

Figure 18: Feeding expressed breast milk by gastric tube



Source: WHO. 2003. *Managing Newborn Problems: A Guide for Doctors, Nurses, and Midwives*.

HANDOUT: CHECKLIST FOR FEEDING EXPRESSED BREAST MILK BY GASTRIC TUBE

Rate the performance of each step or task observed using the following rating scale:

1. Needs improvement: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Competently performed: Step or task performed correctly in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR FEEDING EXPRESSED BREAST MILK BY GASTRIC TUBE | | | | | |
|--|----------------|---|---|---|---|
| STEP/TASK | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| Evaluator: This skill assumes that there is a gastric tube in place. Demonstration/instruction to the mother for feeding expressed breast milk by tube may be done after gastric tube insertion or after participant performs this skill. The mother can perform the skill under supervision for the next feeding. | | | | | |
| 1. Gather all equipment for gastric tube feeding. | | | | | |
| 2. Determine the required volume of milk for the feed according to the baby's birth weight and age (as per local protocol or chart provided in Session 2.3). | | | | | |
| 3. Greet the mother; explain what you are going to do. Ensure that the mother can properly express breast milk and that there is enough available for this feeding. | | | | | |
| 4. Encourage the mother to ask questions and listen to what she has to say now and throughout the feeding. | | | | | |
| 5. Wash hands and put on clean examination gloves. | | | | | |
| 6. Have the mother loosen the cloth around her and the baby and hold the baby in the feeding position. | | | | | |
| 7. Remove the plunger of a high-level disinfected (HLD) or sterile syringe (of a size large enough to hold the required amount of milk) and connect the barrel of the syringe to the end of the gastric tube: a. If a HLD or sterile syringe is not available, use a clean (washed; boiled or rinsed with boiled water, and air dried) syringe; b. If a suitable syringe is not available, use any other suitable clean funnel that connects snugly to the gastric tube. | | | | | |
| 8. Pour the required amount of milk for the feed into the syringe with the "tip" of the syringe pointing downward. | | | | | |
| 9. Have the mother hold the syringe 5–10 cm above the baby or suspend the tube above the baby and allow the milk to run down the tube by gravity. DO NOT FORCE MILK THROUGH THE TUBE USING THE PLUNGER OF THE SYRINGE. a. Using this method, each feeding should take about 10–15 minutes. If the milk flows too fast, slightly pinch the tube below the syringe to slow down the flow. | | | | | |

| SKILLS CHECKLIST FOR FEEDING EXPRESSED BREAST MILK BY GASTRIC TUBE | | | | | |
|--|-----------------------|----------|----------|----------|----------|
| STEP/TASK | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 10. When the feeding is finished, cap the end of the tube until the next feeding. | | | | | |
| 11. Explain to the mother that when the baby can swallow without coughing or spitting milk, he/she can progress to cup feeding. Explain that this may take up to a week or longer, but may happen as soon as 1–2 days. | | | | | |
| 12. Remove, wash and high-level disinfect or sterilize the syringe; discard gloves according to infection prevention protocol; wash your hands. | | | | | |
| 13. Record amount of breast milk fed to the baby. | | | | | |

UNIT 6: HYPOTHERMIA IN THE NEWBORN

GENERAL OBJECTIVE

At the end of the session, learners will be able to describe the appropriate management of hypothermia.

SPECIFIC OBJECTIVES

1. Define hypothermia.
2. Explain ways through which babies lose heat.
3. Describe ways of preventing hypothermia during/after delivery, during transport and during feeds.
4. Discuss the management of hypothermia.

LIST OF SESSIONS

Session 6.1: Description of Hypothermia

Session 6.2: Prevention and Treatment of Hypothermia

HANDOUTS

- Description and Signs of Hypothermia (6.1)
- Causes of Heat Loss in the Newborn and Corrective Action (6.1)
- Prevention of Heat Loss (6.2)
- Treatment and Steps for Re-warming (6.2)

SESSION 6.1: DESCRIPTION OF HYPOTHERMIA

HANDOUT: DESCRIPTION AND SIGNS OF HYPOTHERMIA

Hypothermia is often caused more by a lack of knowledge rather than a lack of equipment. It is important that all health care providers involved in the process of birth and newborn care be trained on the principles of thermal protection for the newborn. On-the-job training and supervised practice should be provided to ensure that the warm chain becomes part of the routine care of the newborn. Family and community should be educated about the risks of hypothermia.

Hypothermia occurs when the newborn's axillary temperature drops below 36.5 °C (97.7 °F). Most cooling of the newborn occurs during the first minutes after birth. After delivery, an infant's skin temperature may fall quickly if precautions are not taken, resulting in a loss as high as 2–3 °C (3.5–5 °F) of core body temperature. This can happen within minutes. The smaller the newborn, the greater the risk of heat loss.⁷

Hypothermia may also be caused by serious systemic infection, so all babies with hypothermia should be assessed for infection. Hypothermic newborns—especially if they are sick, preterm or small for gestational age—are more at risk of developing health problems and of dying.

Newborns are not able to maintain their body heat as well as adults. They get cold or hot much more quickly and can tolerate only a small range of environmental temperatures. This is because they have:

- Large body surface area relative to their body weight
- Small amount of insulating fat under the skin
- Immature brain center that controls their temperature
- Thin layer of skin (which allows more evaporation and hypothermia), especially in the first week of life

Signs of hypothermia

The signs of **moderate** hypothermia—temperature 32–36.4 °C (89.6–97.5 °F)—are:

- Breathing difficult
- Heart rate less than 100 beats per minute
- Poor or no feeding
- Lethargy
- Cold to touch

⁷ Source: WHO. 1997. *Thermal Protection of the Newborn*. WHO/RHT/MSM/97.2 Geneva.

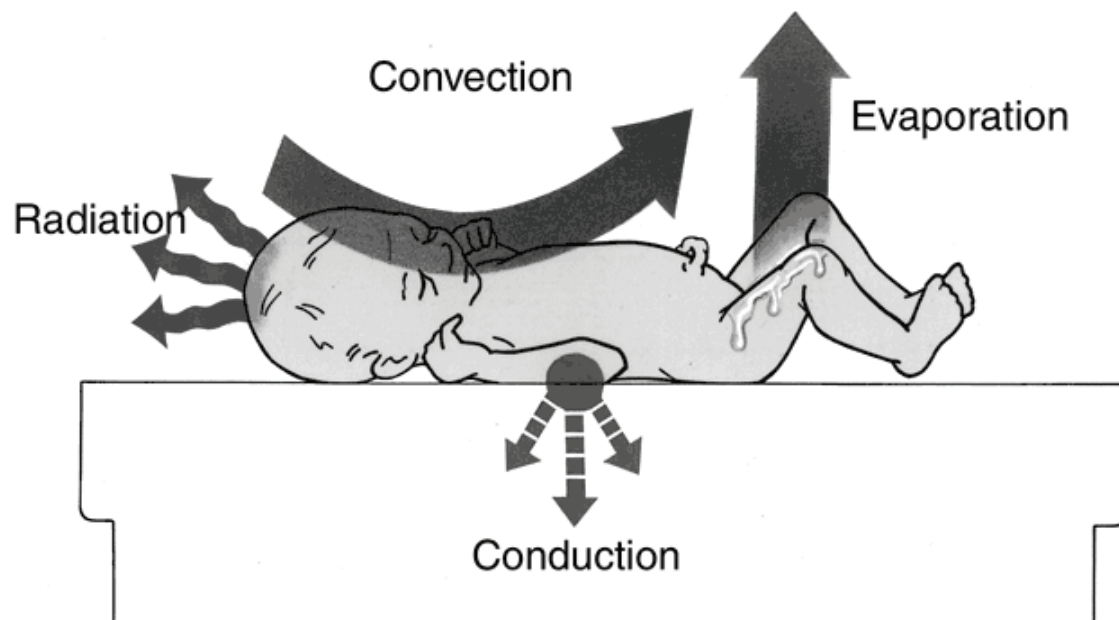
The signs of **severe** hypothermia—temperature less than 32 °C (89.6 °F)—are:

- Breathing difficult
- Heart rate less than 100 beats per minute
- Poor or no feeding
- Lethargy
- Hardened skin
- Slow, shallow breathing
- Cold to touch

How babies lose heat

There are several ways a newborn can lose body heat as illustrated below. Babies who are underdressed for their size, age or environment are also more likely to lose heat. In addition, a newborn can also lose up to 25% of body heat through the head, so it is important to keep the head covered as often as possible, even when indoors and especially in colder climates.

Figure 19: Four ways a newborn may lose heat



Source: WHO. 1997. *Thermal Protection of the Newborn*. WHO/RHT/MSM/97.2 Geneva.

HANDOUT: CAUSES OF HEAT LOSS IN THE NEWBORN AND CORRECTIVE ACTION

The chart below explains the four main ways that heat is lost and the actions to stop the heat loss.

| WAYS A BABY LOSES HEAT | ACTIONS TO STOP THE HEAT LOSS |
|---|--|
| 1. When amniotic fluid or water evaporates (dries into the air) from the skin (evaporation) | <ul style="list-style-type: none"> ● Dry the baby as soon as he/she is born or bathed. Be sure to dry the head well. ● Remove the wet cloth used for drying. |
| | <ul style="list-style-type: none"> ● Make sure a warm blanket covers a scale, table or bed. ● Put the baby skin-to-skin with the mother. ● Cover the baby's head with a cap. |
| | <ul style="list-style-type: none"> ● Keep the baby covered. ● Put a hat on the baby so the head will not be in the cool air. ● Prevent drafts. ● Make sure the room is warm. |
| | <ul style="list-style-type: none"> ● Keep the baby in contact with the mother or another person. |

Source: WHO. 1977. *Thermal Protection of the Newborn*. WHO/RHT/MSM/97.2 Geneva.

SESSION 6.2: PREVENTION AND TREATMENT OF HYPOTHERMIA

HANDOUT: PREVENTION OF HEAT LOSS

Heat loss in the newborn can be prevented by a set of interlinked actions carried out at birth and during subsequent hours and days. This process, called the warm chain, minimizes the likelihood of hypothermia, which is the biggest killer in preterm and LBW babies. These interlinked actions are:

1. Warmth during delivery:

- The temperature of the delivery room should be at least 25 °C (77 °F).
- There should be no drafts.
- Items needed to keep the newborn warm should be prepared ahead of time.

2. Immediate drying and skin-to-skin-contact:

- Immediately dry the newborn after birth with a warm towel while he/she is on the mother's chest or abdomen.
- Cover the baby and mother with another cloth or blanket and put a hat on the baby's head.
- Maintain continuous skin-to-skin contact between the mother and baby.

3. Feeding:

- Initiate breastfeeding within 1 hour of birth.
- Continue breastfeeding, cup feeding or nasogastric tube feeding as appropriate for the baby when hypothermic.
- Follow recommendations for breastfeeding when the mother is HIV-positive (Session 2.3).
- Regardless of feeding method, encourage the mother to maintain KMC during feeds.

4. Delay bathing:

- Bathing should be delayed for at least 24 hours.
- When the newborn is sponge-bathed, it should be done quickly in a warm room using warm water.
- The baby should then be dried quickly and thoroughly, dressed in a hat, nappies and socks and placed in skin-to-skin contact.

5. Warmth during transportation:

- If the newborn needs to be transported to a hospital or within a hospital (e.g., labor ward to nursery), there is a real risk that the baby will develop hypothermia during transportation.
- KMC is a simple and safe way to transport a newborn baby. However, it is very important the mother understands the proper positioning during transport—especially if the baby is preterm—to ensure adequate breathing. If the mother is new to KMC, she may need to be accompanied by the provider to help monitor the baby and to ensure warmth and safety.

6. Warmth during procedures:

- Special attention should be given to keeping babies warm during procedures.
- Avoid unnecessary exposure of the baby during such procedures.
- Expose only those body areas needed for assessment of breathing and for certain procedures such as physical exam, phlebotomy or injections.
- Use additional source of heat (radiant heat) if needed.

HANDOUT: TREATMENT AND STEPS FOR RE-WARMING

Treat moderate hypothermia by re-warming. Steps for re-warming include:

- Ensure that the room is warm, at least 25° C and free from drafts.
- Remove cold or wet clothing and dress the baby in a hat, nappy and socks.
- Place the baby skin-to-skin with the mother. Cover both mother and baby with mother's clothes and light, warm blankets.
- Alternatively, use an incubator or radiant heat source in circumstances where KMC is not possible.
- Encourage breastfeeding. Energy is required to make body heat. If the baby is too weak to suck at the breast, give expressed breast milk by cup.

Monitor the baby's temperature hourly for 3 hours. These should be axillary (under the arm) and not rectal temperatures:

- If the baby's temperature is increasing at least 0.5° C per hour over 3 hours or has returned to normal, rewarming is successful. Continue to monitor the temperature and check it again in 2 hours.
- If the temperature remains normal, monitor the temperature every 3 hours for the next 12 hours.
- If the temperature remains within normal range, you may discontinue measuring the temperature, review the danger signs with the mother and review how to keep the baby warm.
- If the temperature does not return to normal or is rising slowly (at a rate of less than 0.5° C per hour), look for other danger signs—especially signs of sepsis (vomiting, poor sucking/feeding, lethargy, breathing difficulty).

If the baby does not respond to the actions above, refer in KMC position to a higher-level health facility.

For **severe hypothermia**, put the baby in skin-to-skin contact with the mother and refer immediately.

CASE STUDY

Case 1

A woman brings one of her twin granddaughters to the KMC unit, concerned that the baby is feeling cold. You notice that although the baby is skin-to-skin, the head is partially uncovered. The woman says that the other twin is with the mother at home. Both babies are being breastfed, but the grandmother says the mother is exhausted, so she helps by keeping one twin in KMC for most of the day. “I only take her away from my skin when I’m cooking or washing clothes,” says the grandmother. The twins were born 1 week ago at 35 weeks gestation and were healthy at birth.

- A. What are the potential problems with twins regarding KMC?
- B. What additional information will you need to assess the baby’s condition?
- C. How would you counsel this woman?

UNIT 7: KANGAROO MOTHER CARE UNIT DISCHARGE, FOLLOW-UP, READMISSION AND DISCONTINUATION OF KANGAROO MOTHER CARE

GENERAL OBJECTIVE

At the end of the session, learners will be able to describe criteria for discharge, readmission to the KMC unit and discontinuation of KMC.

SPECIFIC OBJECTIVES

1. Explain the criteria for discharge from KMC unit.
2. Explain guidelines for follow-up after discharge.
3. State the criteria for readmission to the KMC unit.
4. Explain reasons for discontinuation of KMC.

LIST OF SESSIONS

Session 7.1: Criteria for Discharge from the Kangaroo Mother Care Unit

Session 7.2: Guidelines for Following Up after Discharge from the Kangaroo Mother Care Unit

Session 7.3: Guidelines for Readmission and for Discontinuing Kangaroo Mother Care

HANDOUTS

- Discharge Criteria (7.1)
- Timing and Content of Follow-Up Visits (7.2)
- Form for Kangaroo Mother Care Discharge and Follow-Up Visits (7.2)
- Guidelines for Readmission (7.3)
- Guidelines for Discontinuing Kangaroo Mother Care (7.3)

SESSION 7.1: CRITERIA FOR DISCHARGE FROM THE KANGAROO MOTHER CARE UNIT

Consider discharge of the baby from the facility if:

- The kangaroo position is well tolerated by the baby and mother.
- The condition of the baby is stable:
 - Vital signs are normal:
 - Respirations are normal without any difficulty breathing.
 - Temperature is within the normal range in the KMC position for at least 3 consecutive days (axillary temperature of 36.5–37.5° C (97.7–99.5° F)).
 - There are no signs of infection, illness or other danger signs.
- The baby feeds well (with coordinated sucking and swallowing) and is exclusively or nearly exclusively breastfeeding.
- *For babies 10 days or older:* there is appropriate weight gain (15 grams/kg per day) for 3 consecutive days (after birth weight regained).
- *For babies less than 10 days old:* they meet the other criteria; weight gain prior to discharge is not a criterion for this baby.*

Consider a later discharge if:

- Follow-up services are not available or accessible;
- Follow-up visits are not possible (e.g., the KMC unit is a long distance away or travel conditions are not good); and
- The baby's weight is below 1,500 grams.

Wait until the baby reaches at least 1,500 grams and meets the other criteria above before considering discharge.

In addition, criteria for the mother include:

- The mother is capable of breastfeeding and expressing breast milk.
- The mother accepts the method, is willing to continue with KMC at home and has support from family, and is able/willing to come for follow-up visits.

*As per experience during the field-test

HANDOUT: DISCHARGE CRITERIA

| CRITERIA FOR DISCHARGE FROM KMC UNIT | | |
|--|-------------------------|--|
| | CRITERIA | DETAILS |
| Baby | Vital signs normal | <ul style="list-style-type: none"> Respiration normal without difficulty breathing Temperature within the normal range in the KMC position for at least 3 consecutive days: <ul style="list-style-type: none"> Axillary temperature: 36.5–37.5° C (97.7–99.5° F) |
| | Physical exam normal | No signs of infection, illness or other danger sign |
| | Feeds well | <ul style="list-style-type: none"> Coordinated sucking and swallowing Exclusive or nearly exclusive breastfeeding |
| | Weight gain | <p>For babies 10 days or older:</p> <ul style="list-style-type: none"> Weight gain of 15 grams/kg per day for 3 consecutive days (after birth weight regained) <p>For babies less than 10 days old:</p> <ul style="list-style-type: none"> Weight gain is not a criterion; they must meet the other criteria above |
| Mother | Breastfeeding | Capable and willing to exclusively breastfeed and express breast milk when needed or appropriate |
| | Willingness and support | Accepts the KMC method and is willing to continue with KMC at home; has support from family and is able/willing to come for follow-up visits |
| <p>Later Discharge Consider later discharge if:</p> <ul style="list-style-type: none"> Follow-up services are not available or accessible; Follow-up visits are not possible (e.g., the KMC unit is a long distance away or travel conditions are not good); and The baby's weight is below 1,500 grams. <p>Wait until the baby reaches at least 1,500 grams and meets the other criteria above before considering discharge.</p> | | |

SESSION 7.2: GUIDELINES FOR FOLLOWING UP AFTER DISCHARGE FROM THE KANGAROO MOTHER CARE UNIT

HANDOUT: TIMING AND CONTENT OF FOLLOW-UP VISITS

After discharge from the KMC unit, it is important to ensure follow-up for the mother and the baby, either at your facility or with a skilled provider near the baby's home. The smaller babies and those less than 10 days old at discharge will need more frequent follow-up visits (at least twice a week). All other LBW babies should be followed up once a week until the baby is term or no longer tolerates the KMC position. The smaller the baby is at discharge, the earlier and more frequent follow-up visits he will need.

While situations and local protocols may vary, WHO advises that the following guidelines will be valid in *most* circumstances:

- Two follow-up visits per week until 37 weeks of post-menstrual age; and
- One follow-up visit per week after 37 weeks.

Follow-up visits:
Always follow local protocol for KMC or IMCI.

However, in very low birth weight babies, daily follow-up may be needed. If this is not possible, the discharge may need to be delayed until fewer visits are required. Follow the local KMC protocol. The content of the visit may vary according to the mother's and baby's needs; at a minimum, however, check the following at each follow-up visit:

KMC—Check the duration of skin-to-skin contact, the position, clothing, body temperature, and support for the mother and the baby. Is the baby showing signs of intolerance? Is it time to wean the baby from KMC (usually at around 40 weeks of post-menstrual age, or just before)? If not, encourage the mother and family to continue KMC as much as possible.

Breastfeeding—Is it exclusive? If yes, praise the mother and encourage her to continue. If not, advise her on how to increase breastfeeding and decrease supplements or other fluids. Ask about and look for any problem and provide support. If the baby is taking formula supplements or other foods, check their safety and adequacy; make sure that the family has the necessary supply.

Growth—Weigh the baby and check weight gain in the last period. If weight gain is adequate, i.e., at least 15 g/kg/day on average, praise the mother. If it is inadequate, ask and look for possible problems, causes and solutions; these are generally related to feeding or illness. To check feeding amounts for adequate daily weight gain, please refer to the table in Session 2.3.

Illness—Ask and look for any signs of illness, reported by the mother or not. Manage any illness according to your local protocols and guidelines. In case of non-exclusive breastfeeding, ask and look particularly for signs of nutritional or digestive problems.

Drugs—If the infant is prescribed any drugs, give a sufficient supply to last until the next follow-up visit.

Immunization—Check that the local immunization schedule is being followed.

Mother's concerns—Ask the mother about any other problem, including personal, household and social problems. Try to help her find the best solution for all of them.

Next follow-up visit—Always schedule or confirm the next visit. Do not miss the opportunity, if time allows, to check and advise on hygiene, and to reinforce the mother's awareness of danger signs that need prompt care.

Special follow-up visits—If these are required for other medical or somatic problems, encourage the mother to attend them and help her if needed.

Routine child care—Encourage the mother to attend routine child care once the baby reaches 2500 grams or 40 weeks of post-menstrual age.

Source: WHO. 2004. Kangaroo Mother Care: A Practical Guide.

Note: A baby may refuse KMC by becoming restless and crawling out when put in the KMC position. This baby may be ready to discontinue KMC if she/he is stable and weight and other criteria are met.

During a follow-up visit:

1. Weigh the baby.
2. Obtain a history from the mother:
 - If she is doing KMC at home
 - Ask about support for KMC from partner/family
 - KMC positioning
 - Duration of skin-to-skin contact
 - Breastfeeding and other feeding options as appropriate
 - Whether there are any danger signs
 - Whether the baby is showing signs of intolerance
 - Ask the mother if there are any other related concerns
3. Perform a physical assessment of the baby:
 - If available, schedule a follow-up eye exam for preterm infants as they are at risk for developing eye problems.
4. Encourage mother and family to continue KMC and advise them to seek immediate care when there are any danger signs.
5. Ask mother about her own health.
6. Praise the mother for coming and schedule the next visit.

HANDOUT: FORM FOR KANGAROO MOTHER CARE DISCHARGE AND FOLLOW-UP VISITS⁸

KANGAROO MOTHER CARE: FOLLOW-UP SHEET

Name of Mother: _____

Address: _____

Date of birth: ___/___/___ Birth weight: _____ gms Sex: ___

Date of admission to KMC unit or NICU _____

Admission weight: _____ gms

Corrected gestational age: _____

Date KMC started: ___/___/___ Weight at start of KMC: _____ gms

Date of discharge: ___/___/___ Weight on discharge: _____ gms

Corrected gestational age at discharge: _____

Diagnosis: _____ Treatment given: _____

Feeding after discharge: _____

Any drugs given at home (specify): _____

Signed

Name of Health Care Provider

Note: A follow-up sheet (such as the sample given below) should be used for every follow-up visit and records maintained by the provider and the mother.

⁸ Adapted from: Forms developed by Henry Kamoza Chavula, Rosemary R. Nyirenda, Suse Weber and George Herspeil from the KMC Centre at Zomba Hospital, Malawi, with assistance from Joseph de Graft-Johnson and Stella Abwao of Save the Children.

Date of review: ___/___/___

Weight: _____gms

Weight gain: _____gms

Average daily weight gain _____
(Weight gain divided by number of days)

Corrected gestational age: _____

How is the baby feeding? _____

Any complaints or problems experienced: _____

Findings on examination: _____

Treatment and follow-up plan: _____

Date of next review: ___/___/___

Date of review: ___/___/___

Weight: _____gms

Weight gain: _____gms

Average daily weight gain _____
(Weight gain divided by number of days)

Corrected gestational age: _____

How is the baby feeding? _____

Any complaints or problems experienced: _____

Findings on examination: _____

Treatment and follow-up plan: _____

Date of next review: ___/___/___

Date of review: ___/___/___

Weight: _____gms

Weight gain: _____gms

Corrected gestational age: _____

Average daily weight gain _____
(Weight gain divided by number of days)

How is the baby feeding? _____

Any complaints or problems experienced: _____

Findings on examination: _____

Treatment and follow-up plan: _____

Date of next review: ___/___/___

SESSION 7.3: GUIDELINES FOR READMISSION AND FOR DISCONTINUING KMC

HANDOUT: GUIDELINES FOR READMISSION

Readmit the baby to the hospital if:

- The baby is losing weight.
- The baby gained less than 15 grams/kg per day over a period of 2 weeks.
- The baby is sick or has a danger sign (follow local protocols).
- The mother is not doing KMC for a baby who is less 2000 grams.

HANDOUT: GUIDELINES FOR DISCONTINUING KANGAROO MOTHER CARE

Discontinue KMC if:

- The baby reaches weight 2,500 grams.
- The mother has no desire to continue KMC for a baby who is less than 2,000 grams, even with additional counseling.
- The mother is sick or unable to provide KMC.
- The baby does not tolerate KMC: that is, if the baby is very active and not content with the KMC position.
- The baby is sick:
 - The baby has a serious illness, requires supplemental oxygen or needs treatment not compatible with continuous KMC according to local protocol. In this case, implement intermittent KMC if possible; otherwise, resume KMC as soon as the baby is stable.

Note: If the baby needs to be referred, please see Unit 4 on “Danger Signs and Common Problems of Low Birth Weight Babies.”

CASE STUDIES

Case 1

A mother presents at the KMC unit from which she was discharged 3 days earlier. She complains that her 3-week-old infant “sleeps too much.” The mother says that she has continued KMC at home and is exclusively breastfeeding, though sometimes she uses a cup with EBM. However, she reports that the baby refused to feed all morning and vomited on the way to the hospital.

- A. What is the likely diagnosis for this infant?
- B. How will you proceed?

Case 2

A 2-week-old baby boy now weighs 1,550 grams, a weight gain of 100 grams since birth. The mother is anxious to go home and wants to know when they can be discharged. She is doing well with feeding EBM to the baby, alternating with breastfeeds.

- A. What additional information do you need before you can make a decision?
- B. How will you respond to this mother?

Case 3

Amina, a 3-week-old LBW (1,500 grams) baby, was admitted at the KMC unit for 7 days and will now be discharged from the KMC unit together with her mother. At the time of discharge, Amina’s mother will need to be counseled on a number of issues pertaining to KMC at home.

- A. What pertinent information should be given to Amina’s mother at the time of discharge?

Amina’s mother was told to have her first KMC follow-up visit at your health facility because the distance from her village to the KMC unit is very far. As a trained KMC provider:

- B. What will you do when Amina is brought to you for her first KMC follow-up visit?

UNIT 8: ACHIEVING COMPETENCY IN KANGAROO MOTHER CARE KNOWLEDGE AND SKILLS

GENERAL OBJECTIVE

At the end of the session, learners will be able to demonstrate appropriate knowledge and skills in KMC.

Facilitator's note: Individual skills assessment can be done anytime the participant is ready and does not have to correspond with this unit. If the workshop time is limited to 3 days, assessment of skills can be done anytime after the technical content is presented and the participant has had an opportunity to practice.

SPECIFIC OBJECTIVES

Demonstrate KMC knowledge and skills by meeting the following competency criteria:

Practical: 100% on critical steps of skills checklist

Theoretical: 75% on post-training knowledge assessment

LIST OF SESSIONS

Session 8.1: Assessing Counseling/Coaching and Demonstration Skills for Kangaroo Mother Care

Session 8.2: Kangaroo Mother Care Post-Training Knowledge Assessment

HANDOUTS

- Skills Checklist: Skin-to-Skin Care of a Low Birth Weight Baby (8.1)
- Post-Training Questionnaire (8.2)

SESSION 8.1: ASSESSING COUNSELING/COACHING AND DEMONSTRATION SKILLS FOR KANGAROO MOTHER CARE

A passing or satisfactory grade (minimal competency) is achieved when there is a score of “1” for each step. Therefore, each participant should score 23—or 100%—on this checklist. For each step on which the participant did not score “1,” the facilitator should review the step and have the participant repeat it.

HANDOUT: SKILLS CHECKLIST FOR SKIN-TO-SKIN CARE OF THE LOW BIRTH WEIGHT BABY

Rate the performance of each step or task observed using the following rating scale:

1. Needs improvement: Step or task not performed correctly, is omitted or out of sequence (if sequence necessary).

2. Competently performed: Step or task performed correctly in proper sequence (if sequence necessary).

| SKILLS CHECKLIST FOR SKIN-TO-SKIN CARE OF THE LOW BIRTH WEIGHT BABY | | | | | |
|---|----------------|---|---|---|---|
| STEP/TASK | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| <p>Evaluator: Read the following case situation and instructions to the participant: “You are caring for a mother and her baby 3 hours after a normal birth. The baby was put skin-to-skin with the mother immediately after birth. The baby breastfed and received eye care and vitamin K during the first hour after birth. The mother did not receive any KMC counseling during pregnancy, but she is interested in KMC. You are ready to help the mother start skin-to-skin care for her baby.”</p> <p>“Please explain the information you will give the mother and family about the reasons for skin-to-skin care.” (Note: this information may be given in any order.)</p> | | | | | |
| 1. Explain/review that skin-to-skin is the best way to care for babies, starting as soon as possible after birth. | | | | | |
| 2. Explain/review that skin-to-skin care: <ul style="list-style-type: none"> • Helps stabilize the baby’s temperature • Keeps the baby near the mother’s breasts for feeding on demand • Promotes the mother’s milk let-down reflex and helps breastfeeding succeed • Promotes faster weight gain in the newborn • Protects the baby from injury and infection | | | | | |
| 3. Explain/review that the mother is the best person to provide skin-to-skin care because her breast milk helps the baby resist infections they are exposed to. No one else can give the baby this specific protection from infections. | | | | | |
| <p>Evaluator: Now say this to the participant: “Please demonstrate teaching the mother to give skin-to-skin care to her baby.”</p> <p>Participant can use a combination of methods to teach the mother such as pictures, use of a doll and demonstration with the mother’s baby.</p> | | | | | |
| 4. Explain that he or she will teach (or review with) the mother how to give KMC so that the mother can do it herself. | | | | | |
| 5. Wash hands and dry them on a clean towel, or air-dry them. Explain to the mother that she should also wash her hands before handling the baby; have mother wash her hands. | | | | | |

| SKILLS CHECKLIST FOR SKIN-TO-SKIN CARE OF THE LOW BIRTH WEIGHT BABY | | | | | |
|---|----------------|---|---|---|---|
| STEP/TASK | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 6. Demonstrate the next steps with a doll or the actual baby: <ul style="list-style-type: none"> • Explain that the baby should be naked except for a diaper (nappy), hat and socks. • Undress the baby except for a nappy and hat (and socks if desired). | | | | | |
| 7. Explain that the baby will be carried next to the mother's skin, inside her warm clothing. | | | | | |
| 8. Help the mother position the baby upright between her breasts, with the baby's feet below her breasts and hands above. | | | | | |
| 9. Help the mother position the baby so that she and the baby are chest-to-chest, with the baby's head turned to one side. | | | | | |
| 10. Show the mother how to snugly wrap the baby to her body: <ul style="list-style-type: none"> • Place the center of a long cloth or wrapper over the back of the baby on the mother's chest. • Cross the ends of the cloth behind the mother's back, bring them back around, and tie them in the front underneath the baby. | | | | | |
| 11. Show the mother how to tie the cloth or wrapper tightly enough to maintain skin-to-skin contact, loose enough so the baby can breathe easily. (Note: The baby should not slip out when the mother stands up or moves around.) | | | | | |
| 12. Show the mother how to support the baby's head by pulling the cloth or wrapper up to just under the baby's outside ear. | | | | | |
| 13. Help the mother put her own clothing (a loose dress, blouse or sari) over the baby. It should be open enough to allow easy breastfeeding, and the baby's face should not be covered. | | | | | |
| Evaluator: Now say to the participant: "Please explain what other information about KMC you will give to the mother and family." (Note: This information can be given in any order.) | | | | | |
| 14. Advise the mother to go about her normal activities with the baby attached to her body in this way. | | | | | |
| 15. Explain how the mother can sleep comfortably with the baby in the KMC position. Show her pictures of sleeping positions. | | | | | |
| 16. Show the mother how to loosen the cloth or wrapper to breastfeed on demand, at least every 2–3 hours. | | | | | |
| 17. Explain the importance of delaying bathing; show the mother how to give the baby a sponge bath. | | | | | |
| 18. Explain that other family members should supply whatever the mother and baby need without separating them, when possible. Explain that the mother will need a lot of support. | | | | | |

| SKILLS CHECKLIST FOR SKIN-TO-SKIN CARE OF THE LOW BIRTH WEIGHT BABY | | | | | |
|--|-----------------------|----------|----------|----------|----------|
| STEP/TASK | CASES OBSERVED | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 19. Explain when and how another family member may replace the mother briefly to provide skin-to-skin care when needed. | | | | | |
| 20. Explain that the mother and family should provide skin-to-skin care continuously, 24 hours a day (day and night), until the baby no longer tolerates KMC. Explain signs that the baby no longer desires skin-to-skin contact (baby is restless in KMC position, fidgets/tries to get out of the KMC position, etc.). | | | | | |
| 21. Explain what the mother should do if she or family members become sick with a minor illness (such as a cold). | | | | | |
| 22. Encourage the mother to ask questions throughout the demonstration; address her questions and concerns. | | | | | |
| 23. Review danger signs of all newborns and what to do if there are danger signs; be sure the woman demonstrates her understanding of danger signs and what to do. | | | | | |
| Add up all of the “ones” (1) and write the total number in this box: | | | | | |
| Date and signature of the person who scored the performance: | | | | | |

SESSION 8.2: KANGAROO MOTHER CARE POST-TRAINING KNOWLEDGE ASSESSMENT

HANDOUT: POST-TRAINING QUESTIONNAIRE

After participants complete this post-training questionnaire, the facilitator should collect the questionnaires and score them. A passing or satisfactory score is 75% correct responses.

Number: _____ Date: _____

WORKSHOP EVALUATION

PARTICIPANT EVALUATION FORM

| PLEASE EVALUATE THE FOLLOWING STATEMENTS: | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
|--|----------------|-------|-----------|----------|-------------------|
| 1. For the work I do, the training was appropriate. | | | | | |
| 2. Training facilities and arrangements were satisfactory. | | | | | |
| 3. The facilitators were knowledgeable and skilled. | | | | | |
| 4. The facilitators were fair and friendly. | | | | | |
| 5. The training updated my knowledge and skills. | | | | | |
| 6. Training objectives were met. | | | | | |
| 7. Teaching aids were useful. | | | | | |
| 8. Practice in the clinical areas was important and helpful. | | | | | |

Please answer the following questions. Use the back for more writing space if needed.

9. What was the most useful part of the workshop for you:

10. What part of the workshop was not useful to you:

11. What suggestions do you have to improve the workshop:

12. Other comments:

SUPPLEMENTARY UNIT 1: SUPERVISION, MONITORING AND EVALUATION OF KANGAROO MOTHER CARE

GENERAL OBJECTIVE

At the end of the session, learners will be able to describe the principles of supervision, monitoring and evaluation of KMC activities within their respective districts.

SPECIFIC OBJECTIVES

1. Describe supervision.
2. Explain the KMC supervision protocol.
3. Explain the KMC indicators.
4. Describe the KMC M&E system.

LIST OF SESSIONS

Supplementary Session 1.1: Supervision

Supplementary Session 1.2: Monitoring and Evaluation

HANDOUTS

- The Elements of Supervision (Suppl. 1.1)
- The KMC Supervision Process (Suppl. 1.1)
- Supervisory Checklist for a Kangaroo Mother Care Unit (Suppl. 1.1)
- Supervisory Responsibilities of a District Kangaroo Mother Care Team Leader (Suppl. 1.1)
- Data Collection and Use (Suppl. 1.2)
- Annex 3: On-Site Kangaroo Mother Care Register/Baseline Data Sheet
- Annex 4: Data Summary Sheet for Low Birth Weight Babies

SUPPLEMENTARY SESSION 1.1: SUPERVISION

HANDOUT: THE ELEMENTS OF SUPERVISION

Supervision is a process wherein one person with a set of knowledge and skills assists or supports other colleagues to improve their work attitudes and practices. The purpose of supervision is to promote continuing improvement in the performance of health workers. Supervision is done where performance is critically dependent on the adoption of not only appropriate but also generally shared objectives by all parties, making sure that:

- The staff are assisted to surmount any difficulties that they may be faced with.
- Necessary steps are taken to motivate staff.
- Relevant support is provided to help staff improve performance and competence.

Supervision may involve demonstrating, training, supporting, helping and encouraging workers to do their work well. This may involve solving workers' problems when needed and ensuring a good working environment, physically and socially. Supervision requires the following supervisory tools in order to be effective:

- Schedules/timetables/programs—because much of a supervisor's work consists of getting certain things done at certain times (e. g., KMC follow-up, supervisory and support visits).
- Instruction guides and procedures—to help with work that is supposed to be of a systematic nature (e. g., KMC follow-up register at the health facility, number of LBW babies seen/born at a health facility).

Supervision is not a one-time activity; rather, it is a continuing process with the following sequential and interacting phases:

1. The Preparatory Phase: when the necessary instruments for the supervisory tasks should be assembled, priorities set and the schedule of supervision communicated to relevant parties.
2. The Implementation Phase: when the supervisor studies performance in the workplace and identifies the workers' support needs.
3. The Follow-up Phase: this involves working out and introducing supervisory and supportive measures to help improve working performance.

Good supervisors provides knowledge, support and skills to those they supervise.

HANDOUT: THE KMC SUPERVISION PROCESS

To prepare for supervision:

- Identify members of the supervisory team.
- Develop a supervisory schedule/plan with the team.
- Develop objectives for the supervision visit with the team.
- Liaise with the facility in-charge prior to the supervision visit.
- Review the KMC Supervisory Checklist* with the team.
- Share the KMC checklist, supervisory schedule and objectives with supervisees prior to the exercise.
- Review the most recent KMC supervisory reports for the facilities and providers to be supervised.
- Ensure that supplies needed at the supervision sites are available.
- Make arrangements for transportation for supervisors when needed.

* **Note:** The KMC Supervisory Checklist may be adapted to the local setting.

Steps of a supervisory visit:

1. Meet with the matron or facility in-charge and KMC staff.
2. Review data and record keeping with the KMC unit head.
3. Observe how KMC is being practiced at the facility using the observation checklist (see next handout).
4. As necessary, provide advice and information on the following KMC practices:
 - Maintenance of warmth
 - Feeding
 - Growth monitoring
 - Identification and management of danger signs
 - Infection prevention practices
5. Conduct client interviews (at least two).
6. Assess the KMC skills of health workers using the skills checklists.
7. Hold discussions with the whole KMC staff and provide immediate feedback.
8. Write draft report stating key next steps and leave a copy at the facility.
9. Write the final report within a week of the supervisory visit and send copies to the facility head and district chief.

HANDOUT: SUPERVISORY CHECKLIST FOR A KANGAROO MOTHER CARE UNIT

Rate the performance on each item using the following rating scale:

Yes: Item being used or available

No: Item not being used or available

| ITEM | FINDINGS | |
|--|----------|----|
| | YES | NO |
| 1. Availability and Functionality of the Following Items: | | |
| • Baby weighing scales | | |
| • Clinical thermometers | | |
| • Heaters | | |
| • Low birth weight register | | |
| • Graduated feeding cups | | |
| • Feeding tubes | | |
| 2. Record Keeping: | | |
| • Recording of all LBW babies | | |
| • Recording of weights | | |
| • Recording of temperature | | |
| • Recording of feeds | | |
| • Recording of physical exam findings | | |
| • Recording of treatments/medications | | |
| 3. Procedures (In the KMC Unit): | | |
| • Infection prevention practices: | | |
| – Wash hands with soap and water before and after handling each baby and after changing nappies. | | |
| – Disinfect feeding cups before use for expressed breast milk and after cup feeding. | | |
| – Mop floor with disinfectant (chlorine) when appropriate. | | |
| – Disinfect all soiled linen before sending to laundry. | | |
| • Admission criteria followed | | |
| • Maintenance of continuous skin-to-skin contact: | | |
| – Intermittent KMC in use when continuous care not possible | | |
| • Counseling of mothers: | | |
| – On admission/initiation of KMC | | |
| – On maintenance of KMC | | |
| – On discharge | | |
| • Discharge criteria followed | | |
| Document findings: | | |

Comments:

Name of Supervisor _____

Signature of Supervisor _____ Date _____

Name of Provider _____

Signature of Provider _____ Date _____

HANDOUT: SUPERVISORY RESPONSIBILITIES OF A DISTRICT KANGAROO MOTHER CARE TEAM LEADER

- Make sure that the baby's weight and temperature have been taken or measured and recorded on appropriate charts.
- Make sure that babies are fed (breastfed, cup or tube). Apart from feeding on demand, the prescribed amount of breast milk should be given and recorded.
- Ensure that appropriate KMC counseling is given to the mothers.
- Check if infection prevention measures are being adhered to (this includes restricting human traffic into the KMC unit).
- If there are babies on treatment, make sure that they get their treatment on time.
- Ensure that all care given to the babies is documented (e.g., resuscitative measures); also document any changes in the babies' condition.
- Ensure that required data are recorded in a timely and accurate manner.
- Ensure that collected data are computerized every 2 weeks.
- Ensure that collected data are analyzed and findings are used to improve KMC services on a monthly basis.

SUPPLEMENTARY SESSION 1.2: MONITORING AND EVALUATION

HANDOUT: DATA COLLECTION AND USE

Monitoring and evaluation of the KMC unit are necessary to ensure appropriate data can be collected to measure the impact of the program (i.e., the KMC unit).

Data collection

For collecting data, there should be registers at the KMC site containing information on the following:

- Mother's name
- Gravida
- Parity
- Mother's age
- Date of delivery
- Admission date and reason for admission
- Type of delivery
- Birth weight (in grams)
- Admission weight
- Gender of baby
- Feeding method (breastfeeding, cup, tube, etc.)
- Baby's discharge date
- Baby's survival status
- Baby's discharge weight
- Problems specific to KMC
- Cause of death
- Complications (specify)
- Baby treated with any antibiotics

For data collection form, see Annex 4.

Use of data for continued KMC

All KMC data should be collected daily and analyzed bi-monthly. This information should be shared with KMC staff so as to promote discussions on findings and use of data for continued KMC. This information can also be shared with stakeholders for decision-making purposes.

Note: Data collection (of baseline information) should start 6 months before the beginning of the actual program. These pre-KMC data are used for comparing the impact of the KMC program on survival and other aspects of LBW baby care at the institution. Refer to Data Summary Sheet for Low Birth Weight Babies in Annex 4.

SUPPLEMENTARY UNIT 2: ESTABLISHING KANGAROO MOTHER CARE SERVICES

GENERAL OBJECTIVE

At the end of the session, learners will be able to establish KMC services at a health facility.

SPECIFIC OBJECTIVES

At the end of this session, participants will be able to:

1. List the steps in implementing KMC services.
2. List the steps and discuss the process in seeking institutional support for KMC services.
3. Evaluate a facility and identify areas that need improving in order to implement KMC services in a facility.
4. Prepare a facility and staff to implement KMC services and develop an action plan.
5. Provide supervision and support to those who are carrying out KMC services.
6. Evaluate a KMC program.

LIST OF SESSIONS

Supplementary Session 2.1: Introduction to and Steps in Establishing Kangaroo Mother Care Services

Supplementary Session 2.2: Seeking Institutional Support (Steps 1–4)

Supplementary Session 2.3: Preparing for and Implementing Kangaroo Mother Care Services (Steps 5–7)

HANDOUTS

- Introduction (Suppl. 2.1)
- Steps in Establishing Kangaroo Mother Care Services (Suppl. 2.1)
- Seeking Institutional Support (Suppl. 2.2)
- Preparing the Facility and Staff for Implementation of Kangaroo Mother Care Services (Suppl. 2.2)

SUPPLEMENTARY SESSION 2.1: INTRODUCTION TO AND STEPS IN ESTABLISHING KANGAROO MOTHER CARE SERVICES

HANDOUT: INTRODUCTION

Kangaroo Mother Care (KMC) is early, prolonged and continuous skin-to-skin contact between a woman and her preterm, LBW or full-term newborn baby. Along with the essential newborn care components, it enhances a baby's ability to maintain a normal body temperature, and supports the baby to breastfeed and to breastfeed longer, which may help with weight gain and reduce infection. It also helps the mother to feel less stress and increased confidence, self-esteem, fulfillment and empowerment to do something positive for her preterm or LBW infant. The cost-effectiveness of the method is a positive factor as it offers an appropriate alternative to long hospitalization. The method introduces a model with a good cost-benefit ratio whose objective is to increase survival rates of preterm and LBW babies as well as increase their quality of life. It can be used in a facility or at home. In short, it is a powerful and easy method to use for promoting the health and well-being of all babies, especially those who are preterm or low birth weight.

Policymakers, health facility administrators, staff and families all have critical roles in implementing and supporting KMC. This document explains and guides the orientation and implementation process for those wishing to establish KMC in a health facility setting. A carefully planned orientation and implementation process assists all involved to learn how to be more supportive and to understand:

- The advantages of the practice to newborns, mothers and families
- The process to implement KMC
- The clinical skills needed to support the practice
- What is needed to implement the practice in a health facility and support it at home

HANDOUT: STEPS IN ESTABLISHING KANGAROO MOTHER CARE SERVICES

Depending on the scope of the program, all or some of the following steps will be included in the program design.

| STEPS TO IMPLEMENT KMC | |
|---|--|
| STEP 1 | Collect and assess vital information related to KMC practices. |
| STEP 2 | Work with policymakers and health administrators at the national level.* |
| STEP 3 | Work with health authorities at all needed levels* (community, district, provincial and regional). |
| STEP 4 | Implement community mobilization and behavior change communication (BCC) activities (if included in program design). |
| STEP 5 | Prepare the facility and staff for the implementation of KMC. |
| STEP 6 | Support and supervise KMC program staff. |
| STEP 7 | Evaluate the KMC program. |
| *Consider stakeholders' sensitization workshop (see Annex 8 for sample agenda). | |

SUPPLEMENTARY SESSION 2.2: SEEKING INSTITUTIONAL SUPPORT (STEPS 1–4)

HANDOUT: SEEKING INSTITUTIONAL SUPPORT

Step 1: Collect Vital Information

Before beginning the design and implementation of a KMC program, collect information to use in working with policymakers, health authorities and personnel at all levels. This information may include but is not limited to:

- Baseline data on preterm and LBW babies for the latest 6- to 12-month period (nationally and/or in program geographic area). See Annexes 3 and 4 for more information
- Present cost of care to preterm and LBW babies and how KMC can reduce those costs
- KMC policies
- National, regional, district and facility level standards and protocols for care of LBW babies
- Monitoring and evaluation related to LBW babies
- Feasibility and interest in KMC
- Resources for KMC:
 - Staff to be trained in KMC
 - Equipment, supplies (note that the items below are helpful to have, but are not critical for a mother to have in her home setting):
 - Beds, mattresses, linens, pillows (if bed is not adjustable, need to have enough pillows, sacks of sand or wedges to put under the mattress to achieve an upright or semi-recumbent position when needed)
 - KMC linen for mothers and babies (wrappers, caps, blouses, socks); this can also be supplied by the family
 - Feeding items (cups, nasogastric tubes)
 - Plastic bucket with decontamination solution to disinfect cups and NG tubes
 - Weighing scale
 - Comfortable chair for mother
 - Recreational facilities (examples: wool, needles, magazines, board games, radio, TV)
 - Bedside lockers for mother
- Rooms in facility:
 - As close as possible to maternity ward and neonatal nursery
 - Good ventilation

- Power supply with a socket for every two beds for connection of heaters and other appliances (may not be available in every facility)
- Adequate shower and toilet facilities (at least one shower and one toilet for a 10-bed unit)

Step 2: Work with Policymakers at the National Level

Conduct an orientation and working meeting with policymakers, health administrators and representatives of the site(s) that will be introducing KMC. During this activity the following information is reviewed:

- LBW babies, their contribution to neonatal morbidity and mortality
- LBW babies: Scope of the problem in the country/area
- KMC: What it is and how it helps (this may include film, PowerPoint presentation and discussions)
- Should KMC be introduced (feasibility, cost implications, possible location of implementation, as a pilot- or field-test or full scale)
- A program design and draft implementation plan that can be used when implementing KMC at other levels:
 - Policy needs and how to implement
 - Protocol needs and how to implement
 - Resources available and needed
 - Preparing administrators and staff: roles and responsibilities, training
 - Linkages between facility and home
 - Community mobilization/BCC needs
 - Support and supervision
 - Evaluation and MIS

Step 3: Work with Health Authorities at All Other Needed Levels (Community, District, Provincial and Regional)

Orientation and working meetings similar to what was done at the national level should also be held at other appropriate levels within the program area. These meetings provide opportunities for administrators and others to understand the “what” and “why” of KMC and to encourage their input into the program design and implementation. The inclusion of some policymakers and health administrators who participated at the national level meeting as co-facilitators helps with the development of support at all levels.

Step 4: Plan and Implement Community Mobilization and BCC Activities on KMC (if included in program design)

SUPPLEMENTARY SESSION 2.3: PREPARING FOR AND IMPLEMENTING KANGAROO MOTHER CARE SERVICES (STEPS 5–7)

HANDOUT: PREPARING THE FACILITY AND STAFF FOR IMPLEMENTATION OF KANGAROO MOTHER CARE SERVICES

Step 5: Prepare the Facility and Staff to Implement KMC

Preparation of the facility where KMC will be introduced is a critical step in a successful KMC program. It gives administrators and staff an opportunity to: 1) learn and think about the program; 2) provide recommendations on its design within their institution; 3) provide needed KMC knowledge and skills to administrators and staff; and 4) guide program implementation. This preparation includes the following activities:

Preparing the Facility to Implement KMC

1. Conduct administrative meeting No. 1.
2. Tour the facility.
3. Conduct a protocol meeting with administrators and clinical managers.
4. Conduct an orientation workshop for all staff who will have contact with the KMC program.
5. Conduct a KMC workshop for all staff who will directly provide KMC services.
6. Develop an action plan.
7. Conduct administrative meeting No. 2.

1. Conduct administrative meeting No. 1: This initial meeting at the health facility begins the preparation activity. Administrators, managers, doctors and the individuals facilitating the KMC program planning, implementation and evaluation meet to discuss KMC, advantages to introducing KMC, and, if KMC is to be introduced, the process to do so. The following is a guide that can be used for this first meeting:

Guide for Meeting No. 1

PARTICIPANTS:

- Hospital or clinic director
- Hospital or clinic administrator
- Clinical unit managers/head nurses or midwives: labor and delivery, postpartum and newborn areas
- Doctors providing client services in labor and delivery, postpartum and newborn areas

AGENDA:

1. Greet and meet participants and make necessary introductions.
2. Ask someone to take minutes.
3. Explain the purpose of this meeting:
 - To begin the process together of understanding why KMC should be implemented
 - To discuss how to implement KMC: decisions to be made and steps to be taken
4. Explain what KMC is and what its advantages are to the baby, mother, family and health facility (have written research and regional experience information available).
5. Discuss issues of feasibility, cost implications, number of LBW babies born at the health facility, staff responsibilities and time, and equipment and supplies needed.
6. Discuss preparing the facility:
 - Purposes
 - Activities (tour, protocol discussion, preparing general staff, preparing staff directly supporting KMC services, decisions about staff assignments, KMC room, shower and bathroom facilities, equipment, monitoring, and follow-up)
 - Facility preparation schedule
7. Reach agreement on desire for KMC, decisions to be made, schedule for preparation, monitoring and follow-up plans, and date and time of the next administrative meeting.
8. Thank everyone for their cooperation and support!

2. Tour the facility: Conducting a tour together with hospital staff helps to identify areas of need. These can then become areas to discuss or to incorporate into the general orientation workshop and KMC workshop. The following is a guide that can help while conducting the tour.

| FACILITY TOUR CHECKLIST | |
|---|----------|
| AREAS TO EVALUATE | COMMENTS |
| Equipment, supplies: | |
| <ul style="list-style-type: none"> • Beds, mattresses, pillows (or sacks of sand or wedges made locally to put under the mattress to result in a 15 degree angle), linens | |
| <ul style="list-style-type: none"> • KMC linen for mothers and babies (wrappers, caps, blouses, sock); these can also be supplied by the family | |
| <ul style="list-style-type: none"> • Feeding items (cups, nasogastric tubes*) | |
| <ul style="list-style-type: none"> • Plastic bucket with decontamination solution to disinfect cups and NG tubes* | |
| <ul style="list-style-type: none"> • Weighing scale* | |
| <ul style="list-style-type: none"> • Comfortable chair for mother* | |
| <ul style="list-style-type: none"> • Recreational facilities (examples: wool, needles, magazines, board games, radio, TV)* | |
| <ul style="list-style-type: none"> • Lockers for mother* | |
| *Note: items that are helpful to have in the facility, but will not be critical for a mother in her home | |
| Rooms in the facility: | |
| <ul style="list-style-type: none"> • KMC room: | |
| <ul style="list-style-type: none"> – Is it as close as possible to maternity ward and neonatal nursery? | |
| <ul style="list-style-type: none"> – Does it have good ventilation? | |
| <ul style="list-style-type: none"> – Is there power supply with a socket for every two beds for connection of heaters and other appliances? (may not be available in every facility) | |
| <ul style="list-style-type: none"> – Are there adequate shower and toilet facilities (at least one shower and one toilet for a 10-bed unit)? | |
| Breastfeeding: | |
| <ul style="list-style-type: none"> • Does the staff support good breastfeeding practices? | |
| <ul style="list-style-type: none"> • Does the staff counsel mothers and families before discharge? | |
| <ul style="list-style-type: none"> • If a baby is unable to breastfeed, what method is used to feed the baby (bottle, spoon, cup)? | |
| Infection prevention practices: | |
| <ul style="list-style-type: none"> • Use good environmental cleaning practices (good frequency of cleaning, use of decontamination/soap solution to clean beds, tables, floors, door handles). | |
| <ul style="list-style-type: none"> • Use good hand washing practices. | |

| FACILITY TOUR CHECKLIST | |
|--|----------|
| AREAS TO EVALUATE | COMMENTS |
| <ul style="list-style-type: none"> Use all steps correctly for preparing equipment and supplies (decontamination, cleaning, high-level disinfection or sterilization). | |
| <ul style="list-style-type: none"> Properly dispose of contaminated items. | |
| Keeping babies warm: | |
| <ul style="list-style-type: none"> Is the baby dried immediately after birth? | |
| <ul style="list-style-type: none"> Is skin-to-skin contact used between mother and baby immediately after birth? | |
| <ul style="list-style-type: none"> Are babies kept with mothers, covered and out of drafts? | |
| <ul style="list-style-type: none"> Is the baby's temperature monitored regularly? | |
| Staff communication with families and mothers: | |
| <ul style="list-style-type: none"> Show respect. | |
| <ul style="list-style-type: none"> Speak clearly, using words the mother and family understand. | |
| <ul style="list-style-type: none"> Listen actively. | |
| <ul style="list-style-type: none"> Are not judgmental. | |
| <ul style="list-style-type: none"> Use good body language (smile, have eye contact while talking and listening, use a gentle voice, keep body height at same level as mother/family). | |
| <ul style="list-style-type: none"> Have patience. | |
| Staff counseling with families and mothers: | |
| <ul style="list-style-type: none"> Make the mother and family feel welcome. | |
| <ul style="list-style-type: none"> Use effective questions. | |
| <ul style="list-style-type: none"> Give clear, useful and correct information. | |
| <ul style="list-style-type: none"> Help the mother and family make their own choices. | |
| <ul style="list-style-type: none"> Help mother and family remember the counseling. | |
| <ul style="list-style-type: none"> Praise the mother and family. | |
| <ul style="list-style-type: none"> Discuss needed follow-up. | |

3. Conduct a protocol meeting with administrators and clinical managers: Having a specific meeting to discuss protocols for KMC is a way to engage doctors, nurse administrators and managers who may not be able to attend a full KMC workshop. Conducting protocol discussions will provide an opportunity for them to fully understand KMC and the process in an environment that allows them to ask questions freely. Conducting this meeting early in the preparation process can gain their support for other preparation activities.

4. Conduct an orientation workshop for all staff having contact with KMC: Not all staff will be able to attend the full KMC workshop. In addition, in some areas staff regularly rotate through the different wards or units. Other staff, such as unit/ward assistants, secretaries and cleaners, also need

to have an understanding of what KMC is and how it works. An orientation for these personnel can last 1 or 2 days, depending on the amount of information provided and how much time is used for practice. The content for the orientation usually includes:

- What is KMC
- Advantages of using KMC to the baby, mother, family and health facility (this can include showing a KMC film)
- KMC protocols
- How to do KMC (both knowledge and skill)
- How to cup feed if the baby is unable to breastfeed
- Reaching agreement on using KMC in the health facility
- Suggestions on how to implement KMC in the health facility

With this type of orientation, staff will feel part of the new KMC program and become strong supporters. They may even be able to help answer questions that mothers or families raise when fully trained staff are not around.

5. Conduct a KMC workshop for all staff who will directly provide KMC services: It is important to conduct a full KMC workshop for all staff who will directly provide KMC services. During the process, participants will gain knowledge and skills related to doing KMC and will also understand the management aspects of implementing and maintaining the program (preparing the environment, equipment and supplies, support and supervision, evaluation). It is critical that the workshop be participatory and competency-based. These Kangaroo Mother Care training materials can be used as the curriculum to conduct the workshop.

6. Develop an action plan: After the above activities are completed, a meeting is conducted to develop the actual KMC action plan. Health facility administrators, doctors and participants in the KMC workshop conduct this planning. The following action plan guide can be used:

| ACTION PLAN GUIDE | | |
|--|--------------------------|----------------|
| ACTIVITY | RESPONSIBLE PERSON/GROUP | DATE COMPLETED |
| Prepare for and collect baseline data. | | |
| Prepare KMC room, shower, toilets. | | |
| Prepare equipment and supplies. | | |
| Update infection prevention practices (if needed). | | |
| Give staff assignments. | | |
| Develop a support and supervision plan: <ul style="list-style-type: none"> ● Health care provider level ● Supervisor level ● District level | | |
| Develop and implement a plan for data collection, data analysis and how to distribute and use data. | | |
| Plan regular KMC meetings (develop a process, set the agendas and identify participants). | | |

7. Conduct administrative meeting No. 2: A final meeting at the end of the preparatory activities helps to clarify what has been done and agreements reached, and confirm the action plan. The following guide can help in doing this activity.

Meeting No. 2 Guide

PARTICIPANTS:

Hospital or clinic director

Hospital or clinic administrator

Clinical unit managers/head nurses or midwives in labor and delivery, postpartum and newborn areas

Doctors providing client services in labor and delivery, postpartum, and newborn areas

AGENDA:

1. Greet the participants in the meeting.

2. Ask someone to take minutes.

3. Review preparation activities and agreements made:

Tour: Findings on equipment/supplies needed by the facility

Protocol Meeting:

- Thank everyone for their willingness to discuss openly all issues around protocols and procedures.
- Review protocol/procedure agreements made.
- Provide recommendations for any needed changes in the facility to implement KMC.

Orientation Workshop:

- Give overview of activities/results and ask one of the staff who attended the workshop to give a short report.

KMC Workshop:

- Give overview of activities/results and ask one of the staff who attended the workshop to give a short report.

Action Plan:

- Review agreed-upon action plan and confirm with all.

4. Discuss any other issues that came up during the week.

5. Thank everyone for their cooperation and support!

Step 6: Support and Supervision

Support and supervision are proven ways of maintaining staff knowledge and skills. It has been shown that if not done, or done poorly, staff quickly lose new skills and interest. Support and supervision also ensure that a mechanism to identify areas of need and solutions is in place and helps to further strengthen the program. See other units of this *Kangaroo Mother Care Participant's Manual* for more detailed information on support and supervision.

Step 7: Evaluate the KMC Program

Data related to KMC help to measure program impact. The collection of pre-KMC data should start 6 months before initiation of the actual program. Data are used to compare the impact of introducing KMC on survival and other aspects of LBW baby care at the health **facility**. All KMC data should be collected daily and analyzed bi-monthly. This information can be shared with KMC staff on a regular basis to promote discussions on findings and to change and strengthen the program. Stakeholders also can use this information for future decision-making. See other units of this *Kangaroo Mother Care Participant's Manual* for more detailed information on program evaluation.

ANNEX 1: KANGAROO MOTHER CARE REFERRAL LETTER

TO: _____ Hospital

Name of Referring Health Unit: _____

PATIENT INFORMATION

Name of Mother: _____ ex of Baby: _____

Date of Birth: _____ Mode of Delivery: _____ Birth Wt.: _____

Place of Delivery: _____

Address/Village/T.A.: _____

History: _____

Physical Assessment: _____

Provisional Diagnosis: _____

Treatment Given: _____

Reason for Referral: _____

Position of Baby during Referral: _____

NAME OF REFERRING OFFICER

Signature.....

(Print in Capitals): _____ Date: _____

NAME OF RECEIVING OFFICER

(Print in Capitals): _____ Date: _____

ANNEX 2: KANGAROO MOTHER CARE GROUP DISCUSSIONS

INTRODUCTION

The group discussions are conducted where Kangaroo Mother Care (KMC) is provided, whether in a KMC unit or maternity unit where KMC is offered. Preferably, a KMC-trained staff member should lead these discussions. The discussions are held with mothers and guardians or other family members involved in providing support to the mother and baby. The discussions are held at the time of admission, during the mother's and guardians' stay at the KMC unit and at the time of discharge from the unit.

Adult learning principles, such as dialogue and reflection, should be used to provide the knowledge and skills needed by the mothers and their relatives to enable them to practice KMC appropriately. The group discussions should be participatory and must engage mothers and their relatives in the educational process. This approach will help to incorporate the group participants' needs and questions and assist them in their own capacity to reflect and analyze situations. In doing so, mothers and guardians will better practice and support KMC.

Counseling cards and other BCC materials like videos for KMC should also be used to enhance these discussions. The facilitator should create an environment where the participants are free to share their own knowledge and also ask questions. Role plays are another effective way to communicate behaviors, such as how to deal with opposition to KMC in the community.

Aim of group discussions

The aim of the group discussions is to provide information to mothers and guardians/family members on how to care for a preterm/small newborn while in the KMC unit and at home after discharge.

GROUP DISCUSSIONS DURING ADMISSION TO THE KMC UNIT

Participants: Mothers and guardians/family members

Purpose: To discuss the KMC method and components, how KMC is done, the advantages and disadvantages, and what is expected from the mothers and family members, especially the guardians who support the mother during her stay at the KMC ward.

Initiating the discussion: Start by asking the group participants what they know about the care of preterm/small babies in the communities where they live. If KMC is not mentioned, ask if they have heard or seen anyone practicing KMC.

If someone has heard about KMC or seen it done, ask them to describe what they know about it. Probe for other details like:

- Why is KMC done?
- Who can do KMC?
- How is KMC done?
- For how long can KMC be done?
- What are the benefits to mother and baby?
- What are the challenges?

This and other questions will help start the discussion and provide information to the participants.

Ensure that the following aspects of KMC and the preterm/small newborn or LBW baby are covered during the discussion:

- Three basic needs of a LBW baby: warmth, food and love
- The meaning of KMC (use the local name or description for KMC if it exists in the community)
- Advantages of KMC:
 - *Warmth*: The mother provides warmth to the baby the whole day.
 - *Food*: Breastfeeding on demand is easily done, so babies are breastfed more often and for longer periods.
 - *Love*: Skin-to-skin contact promotes bonding between mother and baby, so babies cry less as they have continuous contact with their mothers.
 - Babies grow faster as they need less energy to heat up their bodies.
 - Babies can be discharged much earlier, because KMC can be done at home.
 - KMC can be done without increased cost or technology.
- Disadvantages of KMC:
 - KMC is tiring for the mothers.
 - A strong belief in high technology may lead to some resistance by mothers because of the simplicity of KMC.
 - Cultural barriers: Grandmothers may not accept the method. In some traditions, the babies are separated from their mothers and the granny takes care of the baby during the first weeks. Also, babies are usually carried on the back rather than in front.
 - Relatives, neighbors and other members of the community may laugh at the mother who is practicing KMC.
 - There may be non-compliance by mothers and health staff.
- How KMC is done:
 - Position: The baby is held in an upright position between the mother's breasts, held by cloth.

- The mother should sleep in an upright, slanting position to prevent the baby from choking.
 - Skin-to-skin contact has to be practiced for 24 hours, interrupted only when the mother is attending to her own basic needs like going to the bathroom or toilet, etc.
 - The baby wears only a nappy and a cap (*if available*).
- General care of the baby:
 - The baby is not bathed but wiped with a wet, warm cloth to avoid heat loss.
 - The baby is fed every 3 hours either by nasogastric tube, by cup or by breast; the baby should not get more than the prescribed amount of milk.
 - The baby is weighed daily to see if it is gaining or losing weight.
- Movements of mothers or guardians/relatives while at the KMC unit:
 - Two immediate/close relatives and mother's partner will usually be allowed into the KMC ward.
 - Mothers are allowed to leave the KMC ward from 3p.m. to 6 p.m. with their babies in the KMC position; they should not, however, leave the hospital compound or enter any other ward.

Advantages and Disadvantages of Incubator Care

The advantages of incubator care are:

- Useful to stabilize sick babies and can be used intermittently with KMC
- Provides warmth to small preterm babies unsuitable for KMC
- Useful for babies with mothers unable to provide KMC
- Easier to apply oxygen or give IV fluids if needed

The disadvantages of incubator care include:

- Hypothermia or hyperthermia due to:
 - Lack of staff may mean the baby's temperature is not checked regularly.
 - Incubator temperature is not adjusted according to the age, weight and temperature of the baby.
 - There may be problems with the power supply.
 - If the nursery is understaffed, incubator breakdowns may not be immediately detected to prevent hypothermia.
- Infections due to:
 - Lack of staff/inadequate training on proper incubator use and hygiene procedures
 - Lack of thorough disinfection between uses

- Inadequate number of incubators, so several babies are nursed in one incubator, leading to cross-infection
- Repair and maintenance problems due to:
 - Lack of skilled personnel to maintain/repair incubators
 - Lack of spare parts
 - High running cost
- Delay in mother baby-bonding due to:
 - Mother and baby are separated.
 - Mothers often feel afraid to have contact with their baby in an incubator.
- Breastfeeding is more difficult.
- Longer hospitalization:
 - The baby stays in hospital for extended period of time.
 - More hospital resources are required.
 - High cost to mother and family.

During all discussions, make sure that you answer any questions the participants may have and clarify issues that may not be clear to them.

GROUP DISCUSSIONS DURING THE STAY AT THE KMC UNIT

Purpose: To provide mothers and guardians with the knowledge and skills needed to provide quality care for their babies while at the KMC ward and when they go home.

Participants: Mothers and guardians/family members

Facilitators: KMC unit staff including ward assistants

The KMC ward should be seen as a place for educating and empowering mothers to provide quality care for their babies. Informal discussions and video shows about KMC, infant and child health issues should be used to reinforce messages on essential newborn care and on neonatal and maternal danger signs. Include the following key points in discussions on the KMC ward:

- Feeding preterm/small newborns (LBW babies)
- Information from the mothers about their previous experience with breastfeeding
- Discuss the following issues related to feeding:
 - Positioning of the baby for breastfeeding
 - How to express, measure and store breast milk
 - How to feed by cup and nasogastric tube

- Breastfeeding problems

(Show mothers a video on infant feeding)

- Providing support to the mother:
 - Emphasize the role of guardians/family members when they come to visit or while they stay in the ward.
 - Create different ways to communicate and discuss issues with mothers and guardians.
 - Provide an environment that promotes discussion of related issues that are of concern to mothers and guardians/family members.
- Potential problems of preterm/small newborns; discuss the common problems these small babies may have, such as:
 - Fever
 - Hypothermia
 - Breathing problems
 - Diarrhea
 - Bleeding from the cord

Inform mothers that it is very important that they alert a health worker as soon as they see or recognize these problems.

[Show mothers videos about newborn problems, diarrhea, breathing problems (acute respiratory infection)]

- Discharge criteria: Explain to mothers/guardians that the following must be fulfilled before a baby is discharged from the KMC ward:
 - Baby should have an appropriate weight gain.
 - Mothers and guardians should have adequate knowledge about KMC.
 - Mothers and guardians should know the danger signs.
 - Mothers should be able to breastfeed and also express breast milk.
 - Baby should be able to suckle well.
 - The mother and baby should have family support available.
 - The mother is willing to continue KMC at home.
- General and personal hygiene: Provide information about hygiene and prevention of infections. Discuss what should be done to ensure cleanliness and good hygiene for both mother and baby:
 - Feeding utensils should be kept clean and washed after use so that they are clean before each feed.

- Hands should be washed before feeding the baby, after use of the toilet and after touching soiled items.
- Breasts should be cleaned before expressing milk or breastfeeding.
- Umbilical cord should be kept clean by wiping with spirit or plain water and kept dry.
- Baby should be wiped when soiled, but not bathed.
- Baby should wear clean nappies and cap.
- Mothers should wash clothes and bathe appropriately.
- Activities permitted while in the KMC ward:
 - Mothers can eat, chat, wash clothes and wash dishes and other utensils.
 - Mothers should be encouraged to read (if they can read).
 - Mothers can leave the ward in the afternoon to chat with friends and relatives but they should not leave the hospital compound or enter other hospital wards.
- Family planning: To ensure that mothers give enough time for their small babies to grow, discuss family planning issues with them:
 - Inform mothers of the advantages of family planning.
 - Advise mothers on the importance of spacing their children and how it can be done.
 - Provide information on the different family planning methods.
 - Inform mothers about where to get these services.

As you explain procedures like positioning of the baby, expressing breast milk and breastfeeding, feeding by cup or nasogastric tube, cord care, etc., you should also demonstrate these procedures to help mothers and guardians better understand the messages you are giving. Use humanistic models, if possible, such as newborn dolls and breast models.

DISCHARGE FROM THE KMC UNIT

Purpose: To reinforce the KMC-related practices that mothers and their guardians already have, to enable them continue practicing at home and ensure their babies survive.

Participants: Mothers, guardians and other family members

Facilitator: KMC unit staff

Initiating the discussion

- Ask mothers/guardians how they have found their stay in the KMC unit. At this time, take the opportunity to clarify any issues of concern and discuss any immediate problems. Also assess if there is an acceptance of KMC for continuance at home or if there is any indication of giving up or being tired of the method.
- Ask mothers to describe how they will care for their babies at home.

- Discuss continuing KMC in relation to performing necessary tasks at home such as cooking, fetching water or collecting firewood, going to the market, sleeping—whether alone or with others (other children on same bed/mat, when with the male partner, etc.).
- Discuss other activities that might disrupt KMC at home.

Ensure the following are discussed and emphasized:

- General care for the baby:
 - Continuing KMC at home
 - Keeping the baby warm in the KMC position
 - Breastfeeding on demand, or feeding expressed breast milk by cup
 - Ensuring other essential newborn care, including cord care, need for immunization and immunization schedule, etc.
 - Recognizing danger signs and action to take, where to go when these danger signs occur
- Support for the mother for continued KMC:
 - Performing necessary light duties at home, including going to the market, while continuing to put the baby in KMC position.
 - Getting support from relatives, including their carrying the baby in the KMC position when needed.
 - Sleeping in an upright position, e. g., by using sand bags as a back rest, to prevent the baby from choking.
 - Discussing how to handle negative situations related to KMC, including discouraging remarks from relatives or other community members. Emphasize that the best way to cope with these situations is to explain to others what KMC is about.
 - Following up after discharge from the KMC unit. Explain the importance of follow-up visits.
 - Explaining when and where to go for follow-up.
 - Informing mothers that health facility staff will make home visits, especially for those who miss a scheduled visit and need closer follow-up.
- Discontinuation of KMC:
 - Explain when KMC can be discontinued.
 - Ensure that mothers/guardians understand that the baby must have gained weight appropriately, be feeding well and generally doing well.
 - Thank mothers/guardians/family members for all of their support in successfully caring for their baby with KMC.

Encourage successful mothers to become role models for others needing similar care within their communities.

ANNEX 3: ON-SITE KANGAROO MOTHER CARE REGISTER/BASELINE DATA SHEET

Institution _____ Month _____

| No. | Mother's Name | Gravida | Parity | Age of Mother | Date of Delivery | Type of Delivery | Birth Wt. (gms) | Admission Wt. (gm) | Sex | Baby's Discharge Date | Baby's Survival Status | Baby's Discharge Weight(gms) | Cause of Death if Available | Complications | Antibiotics Yes/No | |
|-----|---------------|---------|--------|---------------|------------------|------------------|-----------------|--------------------|-----|-----------------------|------------------------|------------------------------|-----------------------------|---------------|--------------------|--|
| 1 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | |

ANNEX 4: DATA SUMMARY SHEET FOR LOW BIRTH WEIGHT BABIES

Name of Unit _____

Month(s) _____ Year _____

Table 3: Numbers of admissions, babies discharged and deaths

| VARIABLE | FREQUENCY |
|--|-----------|
| Number of admissions | |
| Total number of LBW babies admitted | |
| Number referred in | |
| Number of babies born before arrival (BBA) | |
| New KMC admissions | |
| Continuing KMC cases | |
| Number of babies discharged | |
| Normal discharge | |
| Abscond | |
| Discharged against medical advice | |
| <i>Number of cases referred for special medical care</i> | |
| Number of deaths (NND) | |
| Number of newborn deaths | |

Table 4: Weight gain in grams for those discharged from the unit

| VARIABLE | VALUE (GM) |
|---|------------|
| Weight gain for those with positive gain (n=) | |
| Average | |
| Range | |
| Weight loss for those with negative gain (n=) | |
| Average | |
| Range | |

Table 5: KMC death audit (death by background characteristic)

| CHARACTERISTIC | NO. IN THE CATEGORY (N) | NO. DIED (B) | CASE FATALITY RATE (B/N*100) | PERCENTAGE (B/T*100) |
|-----------------------------------|-------------------------|--------------|------------------------------|----------------------|
| Weight (gram) | | | | |
| <1,000 | | | | |
| 1,000–1,499 | | | | |
| 1,500–1,999 | | | | |
| 2,000–2,500 | | | | |
| Age of mother (years) | | | | |
| <=20 | | | | |
| 21–30 | | | | |
| 31–40 | | | | |
| >40 | | | | |
| Parity | | | | |
| 1 | | | | |
| 2–5 | | | | |
| >5 | | | | |
| Total Number of deaths (T) | | | | |

N = Number in category, B = Number who have died in that category, T = Total number of deaths

Table 6: Complications audit (characteristics of babies and mothers vs. complications)

| CHARACTERISTIC | NUMBER WITH COMPLICATIONS | | | | | | |
|------------------------------------|---------------------------|------------|----------|-------------|-------|-------|-------|
| | Pneumonia | Septicemia | Cyanosis | Convulsions | Apnea | Other | Total |
| Weight | | | | | | | |
| <1000 | | | | | | | |
| 1,000–1,499 | | | | | | | |
| 1,500–1,999 | | | | | | | |
| 2,000–2,500 | | | | | | | |
| Age of mother | | | | | | | |
| <=20 | | | | | | | |
| 21–30 | | | | | | | |
| 31–40 | | | | | | | |
| >40 | | | | | | | |
| Parity | | | | | | | |
| 1 | | | | | | | |
| 2–5 | | | | | | | |
| >5 | | | | | | | |
| Total | | | | | | | |
| No. who had KMC interrupted | | | | | | | |

Table 7: Length of stay of babies under KMC practice for those discharged in the period (in days)

| VARIABLE | MEASURE (DAYS) |
|---|----------------|
| Length of stay of baby in the KMC unit for those discharged alive (n=) | |
| Average | |
| Range | |
| Length of stay of baby in the KMC unit for those who absconded (n=) | |
| Average | |
| Range | |
| Length of stay of baby in the KMC unit for those discharged against medical advice (n=) | |
| Average | |
| Range | |
| Length of stay of baby in the KMC unit for those who died (n=) | |
| Average | |
| Range | |
| Length of stabilization of babies | |
| Average | |
| Range | |

Table 8: Follow-up after discharge from the KMC unit for the 2-month period under review

| VISIT | NO. EXPECTED FOR FOLLOW-UP | NO. WHO CAME FOR SCHEDULED FOLLOW-UP | NO. WHO CAME LATER THAN SCHEDULED | NO. OF DROPOUTS | DROPOUTS VISITED AT HOME | DROPOUTS KNOWN TO HAVE DIED | COMMENTS |
|--------------|----------------------------|--------------------------------------|-----------------------------------|-----------------|--------------------------|-----------------------------|----------|
| First visit | | | | | | | |
| Second visit | | | | | | | |
| Third visit | | | | | | | |
| Fourth visit | | | | | | | |

**Dropout – Those who did not come for follow-up 1 month after scheduled date.

ANNEX 5: INTERVIEW GUIDELINE FOR CLIENTS (MOTHERS)

What did you learn in the KMC unit?

What did you find helpful during your stay at the KMC unit?

What did you like in the KMC unit?

In what ways did the KMC unit staff support you during your stay?

What did you not like in the KMC unit?

What could be improved?

Did you continue with KMC at home? Yes _____ No _____

If no, why not

Were you counseled on how to take care of your baby at home? Yes/No

Do you think KMC is a good method for caring for low birth weight babies? Yes/No

Do you think other people like KMC? Yes/No

Why?

ANNEX 6: KANGAROO MOTHER CARE SUPERVISORY REPORT FORM

Quarterly/Month Report for _____

_____ (Month)

Facility _____ District _____

Name of Reporter _____

Findings _____

Previous Recommended Action Steps

Action Steps _____

ANNEX 7: RECOMMENDED SUPPLIES AND EQUIPMENT FOR KANGAROO MOTHER CARE

*Adapt this list as appropriate for your facility, budget and/or setting.

A. For facility-based KMC services:

- Rooms separate from nursery or sick infants equipped with:
 - Beds or mattresses for mothers
 - Comfortable chairs
 - Pillows
 - If possible, beds and chairs that can adjust to upright or semi-recumbent position. Otherwise adjust with pillows.
 - Ability to keep rooms warm: 22–24° C (71.6–75° F)
 - Curtains/doors to provide privacy and to minimize noise level.
- Bathroom facilities (with running water).
- Separate room for educational and recreational activities if possible
- Clothing for the mother:
 - Mother can wear usual clothing or dress if it accommodates the baby and is not too tight.
 - A support binder (piece of cloth or fabric measuring about 1 meter square), which will be used to wrap around the mother and baby to help keep the baby close to the mother.
 - A shirt, pouch or other type of binder for this purpose may also be used as appropriate.
- Clothing for the baby:
 - Caps
 - Socks
 - Diapers (nappies)
 - A shirt is recommended if the environmental temperature is below 22° C (71.6° F). The shirt should be sleeveless open at the front and cotton (WHO KMC manual).
- Other supplies:
 - Feeding utensils:
 - Small cups (disposable or those that can be cleaned thoroughly or autoclaved)
 - No. 5 to No. 8 French gauge feeding tubes and syringes (for tube feeding expressed breast milk)
 - Syringes for tube feeding

- Refrigerator for storing expressed breast milk
- Newborn weighing scales (with 10-gram measurement intervals)
- Thermometer for measuring body temperature
- Basic newborn resuscitation equipment (Ambu bag, masks for neonate and preterm sizes and oxygen)
- Infection prevention supplies/equipment (follow local protocol or procedures)
- KMC log/registry or other records
- Optional (if available and appropriate):
 - Warming lamp
 - Humidifier
 - Side cabinets for mothers (bedside stands)
 - Room heaters
- For group discussions and health education:
 - TV and DVD or video player
 - Computer equipment:
 - Desktop, monitor and printer
 - LCD projector
 - Flip chart paper and stand
 - Markers
 - A4 paper
 - Dolls and wrappers

B. For KMC at home:

- Clothing for the mother and baby as above:
 - Support binder suitable for other family members(s) who may assist with KMC
 - Feeding utensils if needed as above
 - Pillows to adjust to comfortable sleeping or sitting position

ANNEX 7A: MAKING A PREGNANCY CALCULATOR (PREGNANCY WHEEL)⁹

SUPPLIES

Scissors

Equal number of both pages of the wheel

Fastener or any type of push pin or paper clip with backing

INSTRUCTIONS ON HOW TO CREATE THE CALCULATOR

1. Cut out the wheels from both pages.
2. Put the smaller wheel on top of the larger wheel, facing the same direction, so that you can see the numbers on both.
3. Insert a fastener or pin into the center of the wheels.
4. Bend the fastener or put something sort onto the back of the pin to ensure that it is not dangerous.

Now it is ready for use:

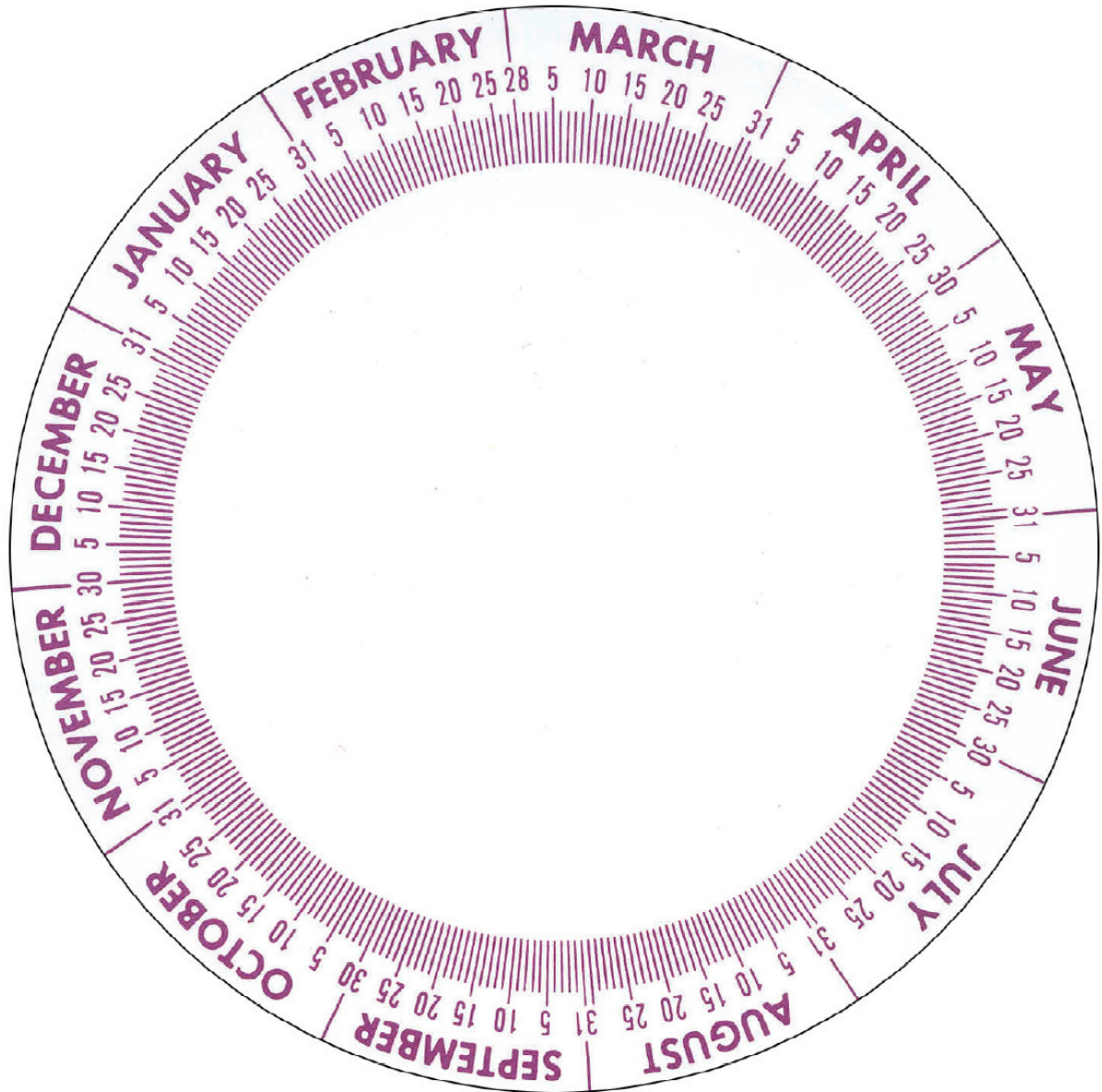
5. Turn the arrow labeled “first day of last period” to the calendar date of the first day of the woman’s last menstrual period.
6. Keep the arrow on this date and look at the arrow labeled “approximate delivery date.” The day that this arrow is pointing to is the approximate date of her delivery.

OR

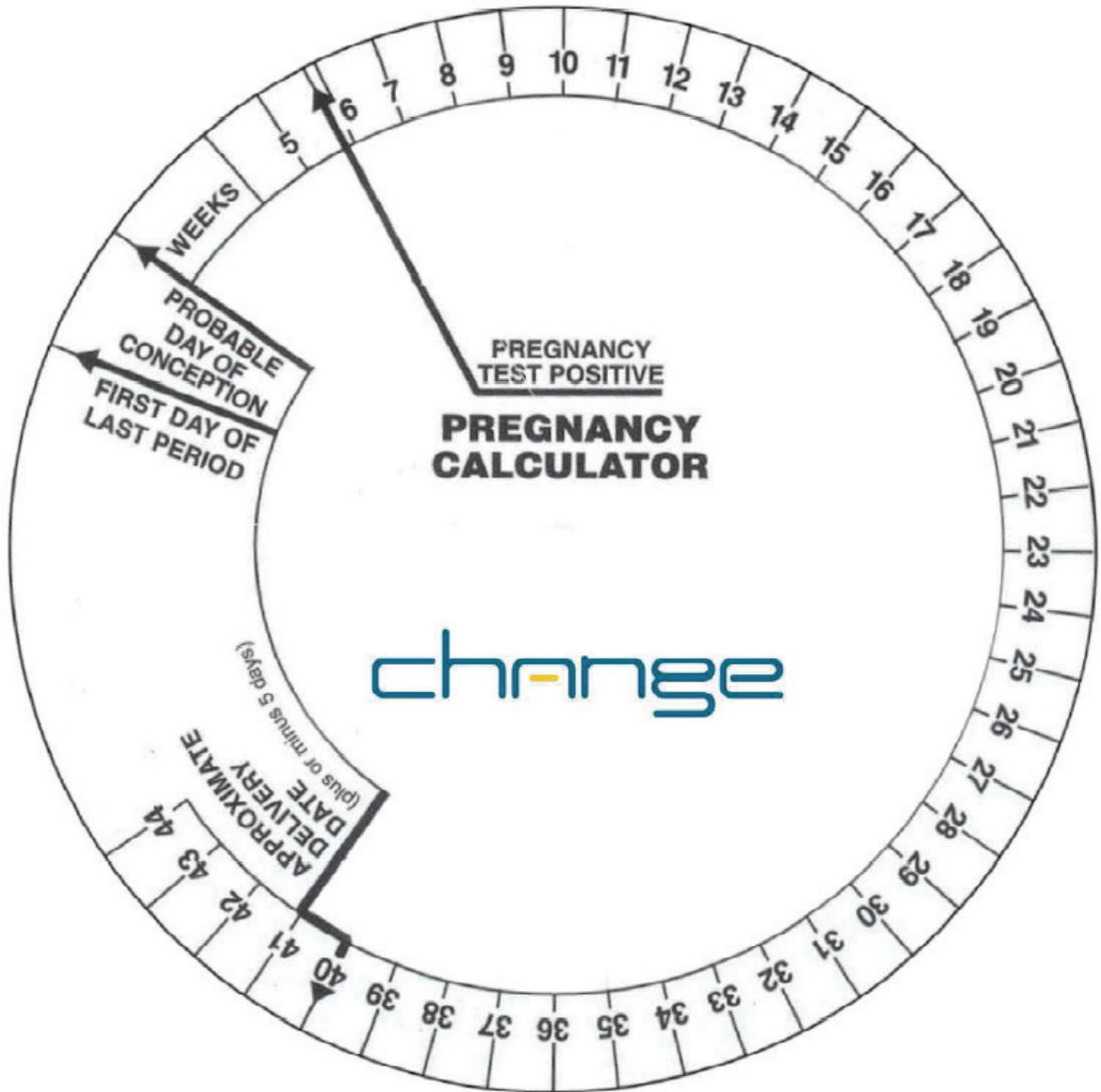
7. If the woman does not remember the date of the first day of her last menstrual periods, but she does know the date when she conceived, turn the arrow labeled “probable day of conception” to the date.
8. Keep the arrow on this date and look at the arrow labeled “approximate delivery date.” The date that this arrow is pointing to is the approximate date of her delivery.

⁹ Source: CHANGE Project. 2005.
http://www.changeproject.org/technical/maternalhealthnutrition/mstoolkit/bp_kenya/tools_bp.htm

OUTER WHEEL



INNER WHEEL



ANNEX 8: STAKEHOLDERS' SENSITIZATION WORKSHOP GUIDELINES AND SAMPLE AGENDA

KANGAROO MOTHER CARE: A SENSITIZATION WORKSHOP FOR STAKEHOLDERS

Suggested duration

1–2 days

The basic content can be covered in 1 day. Many stakeholders will at the very least have to spend a full day outside the office to attend. However, if planning or design must take place, another half-day may be warranted. Below is a sample agenda from a 1-day workshop in Rwanda.

Objectives

By the end of the workshop, participants will have the information to:

- Understand the concept, practice, effectiveness, evidence and benefits of KMC
- Appreciate the need to promote KMC as an important intervention to improve newborn health in [Country]
- Support the implementation and scale-up of KMC initiative in [Country]
- Identify other opportunities and steps to promote KMC in the country

Audience

Ministry of Health (MOH) (host or co-host), program managers, hospital/health unit managers, donors, professional bodies/associations (obstetricians, pediatricians, neonatologists, neonatal nurses, midwives, nurses), policymakers, relevant faith-based organizations/institutions, academic faculty (pre-service medical, nursing and midwifery).

Setting

Classroom, conference room or similar location set up for interactive learning. There should be the ability in the room (or nearby rooms) to have small group work if possible. If there will be a clinical visit as part of the workshop, the venue should be at or near the facility.

Presenters

Suggest that presenters have expertise in KMC programming, implementation and/or administration. If possible, invite presenters from the region, so that experiences will more closely match what is more realistic for your country. Presenters from two or three countries in the region would be ideal.

At least one or two presenters should be expert in the country situation (including facilities) for newborn health and low birth weight to give an accurate picture of what is happening on the ground. In addition to MOH personnel and physicians, consider inviting staff who interact with mothers, families and LBW babies on a regular basis.

A consumer representative (such as a pregnant woman or recently delivered mother) is often appreciated so that the audience hears something from the community and cultural point of view.

Content

The content will depend on the audience (participants) and whether or not KMC has been introduced in the country (for example, there may be a pilot program or merely a proposed program). If the MOH and other stakeholders are committed to the idea, more time may have to be spent on some kind of action plan and next steps. If there is already funding for a start-up or pilot program, donors will likely play a part in the planning discussions.

Presenters from other countries where KMC is being implemented are often helpful in providing suggestions about the planning and start-up stages of implementation. General topics may include:

- Global and regional situation of preterm/LBW:
 - Impact on neonatal survival
 - Needs/problems of LBW babies
- Concept and practice of KMC
- Evidence of the effectiveness and benefits of KMC (include global and any regional evidence)
- Sharing of other country experiences
- Experience from consumer (client with LBW baby or clients with KMC experience)
- Situation in the country (newborn health, care of preterm/LBW babies)
- Demonstration and brief hands-on practice
- KMC video (suggest the one from S. Africa by Dr. Nils Bergman)
- Discussion on introduction (or scale-up) of KMC in [Country]:
 - Appropriateness for country
 - Cost considerations
 - Challenges
 - Designing (or scale-up of) a KMC program
 - Key planning (or implementation) activities
 - Community KMC:
 - Collaboration/linkages with community providers and facilities
 - Roles of various stakeholders

- Advocacy
- Action-planning (this can be done in small groups or as a plenary presentation):
 - Opportunities
 - Next steps
 - Timeline
 - Follow-up
- Other/Miscellaneous:
 - KMC training workshop (if one is planned):
 - Schedule/outline
 - Overview of training process, cost and level of effort
 - Need for adaptation of training materials
- Question and answer period (if time permits)

Other considerations

Materials needed:

- TV/video player
- KMC video
- Laptop and LCD projector
- Flip chart stand, paper and markers
- For KMC demonstration and practice:
 - Dolls
 - Cloth for wrapping baby in KMC
 - Baby caps
- Handouts and resources for participants may include:
 - Presentations
 - Pamphlets, brochures, job aids or other information from countries or facilities practicing KMC
 - WHO KMC manual (this is usually free of charge and can be ordered in advance from local or regional WHO offices)
 - KMC curriculum (or sample with just the Table of Contents or excerpts as handouts)
 - Any regional KMC learning materials
 - Sample KMC or LBW/preterm care policies or guidelines from other countries

- Local/regional IMCI protocols, especially if the newborn is included in the local Integrated Management of Childhood Illness (IMCI) training
- State of the World's Newborns
- *Lancet* series on neonatal survival
- Copies of literature or summaries of evidence
- Any other newborn/preterm/LBW care publication or resource appropriate for the region (example: Opportunities for Africa's Newborns)

KANGAROO MOTHER CARE: ONE-DAY SENSITIZATION MEETING FOR STAKEHOLDERS: AGENDA

Date: June 12, 2007

Location: MOH Meeting Room

Objectives:

- to understand the concept, practice, effectiveness, evidence and benefits of KMC
- to appreciate the need to promote KMC as an important intervention to improve newborn health in COUNTRY X
- to design the introduction and scale up of KMC in the country
- to identify stakeholders who will support KMC implementation in the country

Meeting Facilitator: [NAME]

| | |
|---------------|--|
| 8:30 – 8:45 | Arrival of Participants |
| 8:45 – 9:00 | Welcome address MOH Representative or other local host |
| 9:00 – 9:05 | Review Agenda and Objectives |
| 9:05 – 9:20 | Overview of ACCESS Program MOH Representative/Program Manager of PVO |
| 9:20 – 9:40 | Preterm/Low Birth Weight Situation in Rwanda <i>Presentation and Discussion</i> Local Pediatrician |
| 9:40 – 10:15 | Kangaroo Mother Care: The Global Evidence <i>Presentation and Discussion</i> Local, regional or international KMC expert |
| 10:15 – 10:45 | BREAK with Video Show on KMC |
| 10:45 – 11:15 | Kangaroo Mother Care: Madagascar Experience <i>Presentation and Discussion</i> Country Y representative |
| 11:15 – 11:45 | Kangaroo Mother Care: Country Z Experience <i>Presentation and Discussion</i> Country Z Representative |

| | |
|---------------|---|
| 11:45 – 12:15 | Kangaroo Mother Care: Country W Experience <i>Presentation and Discussion</i> Country W representative |
| 12:15 – 1:15 | LUNCH |
| 1:15 – 1:30 | Brief Hands-on KMC Demonstration |
| 1:30 – 3:15 | Discussion on KMC Introduction and Scale-Up: <ul style="list-style-type: none"> ■ Appropriateness for the country ■ Designing for scale-up-implementation strategy ■ Key implementation activities ■ Roles of various stakeholders ■ Stakeholders' remarks |
| 3:15 – 3:30 | BREAK |
| 3:30 – 3:45 | Next Steps |
| 3:45- 4:00 | Closing Remarks |