**KANGAROO MOTHER CARE**

**INTRODUCTION:**

Caring low birth weight baby is a great challenge for the neonatal care unit and the family. Number of low birth weight baby is still far beyond the expected target in our country. The cost of quality management of the babies is increasing day-by-day. Kangaroo mother care is low cost approach for the care of low birth weight baby.

**DEFINITION OF KMC:**

Kangaroo mother care (KMC) is a special way of caring low birth weight infants by skin to skin contact.

It promotes their health and welling by effective thermal control, breastfeeding and bonding.

**COMPONENTS OF KMC**

1. **Skin-to-skin contact:** Direct, continuous and prolonged skin-to-skin contact is provided between the mother and her baby to promote thermal control.
2. **Exclusive breastfeeding:** Skin-to-skin contact promotes lactation and feeding interaction with exclusive breastfeeding for adequate nutrition and to improve desired weight gain.
3. **Early discharge and follow-up care:** Desired weight gain by kangaroo care helps in early discharge which demands for regular follow up care to assess the adequacy of home care and to identify problems for early interventions.

**PREREQUISITES OF KMC:**

1. **Support to the mother:** Mother needs support in hospital and home from caregivers and family members. Counseling and supervision should be provided to the mother by the health personnel in hospital, whereas mother requires assistance and cooperation from her family members at home.
2. **Postdischarge follow-up:** KMC should be continued at home after discharge from hospital. For safe and successful KMC at home, a regular follow-up should be arranged to solve problem and to evaluate health status of the infant.

**BENEFITS OF KMC:**

1. KMC helps in thermal control and metabolism. Prolonged, continuous and direct skin-to-skin contact between mother and neonate provides effective thermal control and reduces risk of hypothermia.
2. KMC results in increased duration and rate of breastfeeding.
3. KMC satisfies all five senses of the infant. Baby feels warmth of the mother through skin-to-skin contact (touch), listen to mother’s voice and heartbeat (hearing), sucks the breast to feed (taste), smells the mother’s odor (olfaction) and makes eye contact with mother’s (vision).
4. During KMC, the baby has more regular breathing and fewer predispositions to apnea.
5. KMC protects against nosocomial infection and reduces incidence of severe illness including pneumonia during infancy.
6. Daily weight gain is slightly better with KMC, thus duration of hospital stay may be reduced. LBW baby receiving KMC could be discharged from the hospital earlier than conventional care.
7. KMC facilitates better mother-infant bondage due to significantly less stress during kangarooing than the incubator care of the baby.
8. KMC is one of the best methods of transporting small babies by keeping them in continuous skin-to-skin contact with mother or family members.
9. Mother feels increased confidence, self-esteem, sense of fulfilment and deep satisfaction with KMC. Father feels more relaxed, comfortable and better bonded.
10. KMC does not require additional staff compared to incubator care.

**REQUIREMENTS FOR KMC IMPLEMENTATION:**

1. Training of nurses, doctors and other staff on KMC, especially who are involved in care of mother and baby.
2. Educational materials like information booklet, pamphlets, poster, video film, etc. on KMC in local language.
3. Reclining chairs or beds with adjustable backrest or pillow or ordinary chair.
4. KMC does not require extra staff. Once KMC is implemented, caregivers appreciate it because of health benefits to the babies and the satisfaction expressed by the mothers.

**ELIGIBILITY CRITERIA FOR KMC:**

**For Baby:**

1. All stable LBW babies are eligible for KMC. It is particularly useful for caring LBW infants weighing below 2000 g.
2. In a stable baby, KMC can be initiated soon after birth.
3. KMC should be started after the baby is hemodynamically stable.
4. Sick LBW infants may take a few days to initiate KMC. So the sick baby needs transfer to a proper facility immediately.
5. Infants of birth weight less than 1200 g with serious prematurity related morbidity may take days to weeks to allow initiation of KMC.
6. KMC can be initiated who is otherwise stable but may still be on IV fluid therapy, tube feeding and/or O2 therapy.

**For Mothers:**

1. All mothers can provide KMC irrespective of age, parity, education, culture and religion.
2. Mother should be free of serious illness and able to take adequate diet and supplements recommended by her doctor.
3. She must be willing to provide KMC to her baby.
4. She should maintain good hygiene, daily bath/sponge, change of clothes, hand hygiene, short and clean finger nails, etc.
5. She should have supportive family and community to be encouraged to continue KMC to her baby.

**PREPARATION FOR KMC**

**Counseling:**

1. Explain the benefits of KMC to the mother and the family members.
2. Demonstrate the procedure to the mother gently with patience.
3. Answer the questions as asked by the mother and the o family members to remove anxiety.
4. Allow the mother to interact with someone who have already practicing KMC for her baby.
5. Discuss about the procedure to the mother-in-law, husband or any other members of the family.

**Mother’s Clothing:**

Mother should wear front-open, light dress, as per local culture. Mother can wear sari-blouse, gown, shawl, etc.

**Baby’s Clothing:**

Baby should be dressed with front-open sleeveless shirt, cap, socks, nappy and hand gloves or mitten.

**KMC PROCEDURE:**

**Kangaroo Positioning:**

1. The baby should be placed between the mother's breasts in an **upright position**.
2. Baby’s head should be turned to one side and in a slightly extended position which helps to keep the airway open and allow **eye-to-eye contact** between mother and baby.
3. Baby’s hip should be flexed and abducted in a **frog-like position**. The arms should also be flexed and placed on mother’s chest.
4. **Baby’s abdomen** should be placed at the level of **mother’s epigastrium**.

**Monitoring during KMC:**

1. During initial stage of KMC the baby should be monitored for airway, breathing, color and temperature. Hands and feet should be examined to assess the warmth. Airway must be kept clear with regular breathing, normal skin color and temperature.
2. Baby’s neck position should be neither too flexed not too extended.

**Feeding:**

1. Mother needs help to breastfeed her baby during KMC. Holding the baby near the breast stimulates milk production and the kangaroo position makes the breastfeeding easier.
2. Baby could be fed with paladai, spoon and tube depending upon the baby’s condition.

**PSYCHOLOGICAL SUPPORT TO MOTHER:**

1. Mother needs motivation to continue KMC.
2. She should be encouraged to ask questions to remove anxieties.

**Privacy:**

Privacy should be maintained to avoid unnecessary exposure on the part of the mother which makes her nervous and demotivating.

**Time of Initiation of KMC:**

1. KMC should be initiated gradually with a smooth transition from conventional care to continuous KMC.
2. KMC can be started as soon as the baby is stable in the neonatal care unit.
3. Short KMC sessions can be initiated during recovery with ongoing medical treatment, i.e. IV fluid, O2 therapy, etc.
4. KMC can be provided while the baby is with gavage feeding.

**Duration of KMC:**

1. Duration of KMC **should not be less than one hour** to avoid frequent handling which may be stressful to the baby.
2. Gradually the length of KMC sessions **should be increased up to 24 hours a day**. Interruption only can be done for changing of diapers.
3. KMC should be continued in postnatal ward and home.
4. It may not be possible for mother to provide KMC prolonged period in the beginning. Encourage her to increase the duration each time to provide KMC as long as possible.
5. When mother is not available then other family members as father, grandmother, aunty can provide KMC.

**CAN THE MOTHER CONTINUE KMC DURING SLEEP AND RESTING?**

1. Mother can sleep with baby in KMC position in a reclined or semi-recumbent position about 15 to 30" from above the ground.
2. A comfortable chair with adjustable back may be useful to provide KMC during sleep and rest at ward or home.
3. Adjustable bed or several pillows or an ordinary bed can be used to maintain the position, which usually decreased the risk of apnea of the baby.
4. Supporting garment can be used to carry the baby in kangaroo position during sleep and rest.
5. Father and family members can provide KMC to relieve mother during and rest.

**DISCHARGING CRITERIA:**

The baby should be transferred from the Neonatal Care Unit to the postnatal ward, when the baby is stable and gaining weight and the mother is confident to look after the baby. The baby should be discharged from hospital when the baby is having the following conditions:

1. General health is good and there is no evidence of infection and apnea.
2. Feeding well exclusively with breast milk. **Gaining weight** **15 to 20 g/kg/day** for at least **three consecutive days**.
3. Maintaining normal body temperature satisfactorily for at least three consecutive days in room temperature.
4. Mother and family members are confident to take care of the baby at home and would be able to come regularly for follow-up visits.
5. Home environment should be suitable and congenial for continuation of KMC.

**DISCONTINUATION OF KMC:**

1. KMC can be continued until the baby gains weight around **2500 g or reaches 40 weeks** of postconception age.
2. KMC can be **discontinued** if the baby starts wriggling to **show discomfort** **or pulls** **limbs out, cries and fusses every time**, when mother tries to put the baby back into skin contact.
3. When mother and baby are comfortable, KMC can be continued as long as possible at health facility or at home.
4. Mother can provide skin-to-skin contact occasionally after the baby bath and during cold nights.

**POST DISCHARGE FOLLOW-UP:**

Each neonatal care unit should formulate its own policy for follow-up.

1. In general a baby is followed up once or twice a week till 37 to 40 weeks of gestation or till the baby reaches 2.5 to 3 kg of weight.
2. There after a follow-up once in 2 to 4 weeks may be sufficient till 3 months of postconceptional age. After that 1 to 2 months during first year of life. The baby should gain adequate weight 15 to 20 g/kg/day up to 40 weeks of conceptional age and 10 g/kg/day subsequently.