**KANGAROO MOTHER CARE**

**ABSTRACT:**

Kangaroo mother care is a method of care of preterm infants and low birth weight infants. The method involves infants being carried usually by mother with skin-to-skin contact. Baby should be dressed with front-open sleeveless shirt, cap, socks, nappy and hand gloves or mitten while giving kangaroo mother care. It 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). KMC can be continued until the baby gains weight around 2500 g or reaches 40 weeks of postconception age. After discharge the 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.

**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.1

**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 wellbeing by effective thermal control, breastfeeding and bonding. 1

**COMPONENTS OF KMC:**

1. Skin-to-skin contact: The baby is placed vertically on the mother's chest, with the baby's skin in direct contact with the mother's skin. The baby is usually dressed in just a diaper and covered with a blanket to maintain warmth.
2. Exclusive breastfeeding: Kangaroo Mother Care promotes exclusive breastfeeding. The baby is allowed to breastfeed whenever they show signs of hunger or need to be comforted.
3. Kangaroo position: The baby is positioned in an upright, vertical manner on the mother's chest or between the mother's breasts. This position enables the baby to feel the mother's heartbeat and warmth, which can be soothing and calming.
4. Supportive clothing and blankets: The baby is dressed in a diaper and, if needed, a hat to regulate body temperature. A blanket is used to cover the baby, ensuring they stay warm during the skin-to-skin contact.
5. Kangaroo care for an extended period: Kangaroo Mother Care is not limited to short durations. Ideally, it should be practiced for several hours a day, and for premature infants, it can continue until they reach the term-corrected age.
6. Monitoring and medical care: Babies under Kangaroo Mother Care are regularly monitored by healthcare professionals to ensure their well-being and development. They may still require medical attention or treatments specific to their health conditions.2

**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.1

**BENEFITS OF KMC:**

1. Improved thermal regulation: Skin-to-skin contact with the mother's chest helps regulate the baby's body temperature more effectively than in an incubator, reducing the risk of hypothermia and providing a stable thermal environment.
2. Better weight gain: Infants under KMC tend to gain weight more rapidly, as the close contact with the mother encourages more frequent and successful breastfeeding, leading to improved nutrition.
3. Enhanced breastfeeding success: Kangaroo Mother Care promotes exclusive breastfeeding, as the baby is allowed to breastfeed whenever they show hunger cues, leading to a better-established breastfeeding relationship.
4. Reduced risk of infections: Kangaroo Mother Care has been associated with a lower incidence of infections in premature infants, possibly due to better temperature regulation and the transfer of protective antibodies through breast milk.
5. Stabilization of vital signs: Skin-to-skin contact has been shown to help stabilize the baby's heart rate, respiratory rate, and oxygen saturation levels, leading to better overall physiological stability.
6. Improved brain development: The close contact with the mother's body and the soothing environment created through KMC can have positive effects on the baby's brain development and neurological outcomes.
7. Decreased risk of hypoglycemia: Regular breastfeeding and close maternal contact can help prevent episodes of low blood sugar in premature infants.
8. Lower stress levels: Kangaroo Mother Care has been linked to reduced stress levels in both the baby and the mother, which can have positive effects on the overall well-being of both.
9. Better sleep patterns: Babies in KMC often experience improved sleep patterns, which are vital for their growth and development.
10. Enhanced bonding and emotional connection: The close physical contact and emotional interaction between the mother and the baby during Kangaroo Mother Care promote strong bonding and emotional attachment.
11. Increased maternal confidence: Kangaroo Mother Care empowers mothers and caregivers by involving them directly in the care of their infants, leading to increased confidence in their ability to nurture and care for their baby.
12. Cost-effectiveness: KMC can be a cost-effective alternative to using expensive incubators in resource-limited settings, making it accessible to a broader range of families.3

**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.1

**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.4

**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.1

**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.5

**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.1

**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.2

**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.6

**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.1

**CONCLUSION:**

Kangaroo mother care improves growth, reduces morbidities and decreases hospital stay in low birth weight infants. It is simple, acceptable, affordable, and feasible to mothers and can be continued at home. Nurses play an important role in directly educating and encouraging family to provide kangaroo mother care.

**REFERENCES:**

1. Pal P. Textbook of Paediatrics. Paras Medical Publishers. 2016. 1st ed.
2. Datta P. Paediatric Nursing. Jaypee Brothers Medical Publishers. 2018. 4th ed.
3. Hockenberry M. J., Wilson D. Wong’s Nursing Care of Infants and Children. Elsevier 2015. 10th ed.
4. Sharma R. Essentials of Pediatric Nursing. Jaypee Brothers Medical Publishers (P) Ltd 2013. 1st ed.
5. Pillitteri A. Child Health Nursing, Care of child and family. Lippincott. 1999. 1st ed.
6. Dutta D.C. Textbook of Obstetrics. Jaypee brothers medical publishers (P) Ltd. 2018. 9th ed.