

Low Birth Weight Babies and Kangaroo Mother Care

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Abstract

Babies with birth weight of less than 2.5 kg irrespective of the gestational age are the Low Birth Weight (LBW) Babies which include both preterm and small-for-date. Low Birth Weight babies have higher morbidity and mortality and are more prone to malnutrition, infections and neuro-development handicapped in later life.

Kangaroo mother care (KMC) is a method of care for preterm infants which involve infants being carried out usually by the mother through skin to skin contact. It is the cost effective and useful strategy to enhance the survival of low birth weight babies. It was first implemented by Roy and Martinez in 1979 at Maternal and Child Institute of Bogora, Colombia.

Kangaroo mother care helps to prevent infections, promote breastfeeding, regulate the baby's temperature, breathing and encourages mother and baby bonding. It is simple and can be easily practiced at home. So, it is a standard care for the LBW babies which can be applicable in all the settings. Babies have good weight gain of average 30gms/day and have short duration of hospital stay of average 9 days when they received kangaroo mother care. Similarly, Kangaroo mother care effectively reduces morbidity like hypothermia, apnea, skin infections and oral thrush among babies. Kangaroo mother care is a low cost approach for the care of low birth weight babies.

Kangaroo mother care is best suited care strategy to provide care to the low birth weight babies which help in the survival and improve the quality of life of those LBW babies who survive. This will ultimately help to reduce neonatal and infant mortality rates and contribute to overall health status of the country. This article helps to provide an overview of the Kangaroo Mother Care for health personnel.

Key words: Low Birth Weight, Kangaroo Mother Care, Skin-to-Skin Contact

Introduction

Low Birth Weight results from either preterm birth or due to intrauterine growth restriction or both (Ghai, 2013). Low birth weight (LBW) and prematurity accounts for 28 % of all newborn mortality globally. It is a major contributor to neonatal and infant morbidity with 30 % mortality in developing countries (Rasaily et al., 2017).

It is estimated that globally, out of 139 million live births, more than 20 million LBW babies are born

each year and among them more than 95% are in developing countries, mainly in South Asia and Sub-Saharan Africa (Sachdev, 2001). In India about 30 to 40 % neonates are born LBW. Approximately 80% of all neonatal deaths and 50% of infant deaths are related to LBW (Datta, 2009). All the babies had exclusive breast feeding and KMC was acceptable to mothers (Subedi, Aryal & Grubacharya, 2009).

Kangaroo Mother Care refers to care of preterm or low birth weight infants by placing the infant in

skin-to skin contact with the mother or any other care giver. Kangaroo Mother Care results in keeping neonates warm and cozy. Babies get protected against cold stress and hypothermia. Physiological parameters such as heart and respiratory rates, oxygenation, sleep patterns get stabilized (Ghai, 2013). Kangaroo Mother Care has been proposed as an alternative method for caring low birth weight neonates. It was first implemented by Roy and Martinez in 1979 at Maternal and Child Institute of Bogota, Colombia. Kangaroo mother care is the low cost humane technique for caring low birth weight babies by the direct skin to skin contact with mother (Subedi, Aryal & Grubacharya, 2009).

Kangaroo mother care improves their health and well being by promoting effective thermal control, breastfeeding infection prevention and bonding (Sharma, 2009). It is a non-conventional, low-cost method for newborn care based upon intimate skin-to-skin contact between mother and baby. It consists of skin to skin contact, exclusive breast feeding and early hospital discharge (Whitelaw, 1985). It also includes regular follow up. It is provided when baby is stable and his vital signs are maintained. Breastfeeding begins within 1 hour after birth and then every 2-3 hours or on demand of baby and helps maintain temperature, heart rate, respiratory rate, oxygenation and other physiological parameters within normal ranges.

Low birth weight babies are more vulnerable to suffer from common day to day infections during infancy and 40% LBW babies are malnourished at one year of age (Singh, 2009). Low birth weight infants are approximately 13 times more likely to die than normal birth weight counterparts (Yasmin, Osrin, Paul & Costello, 2001). The results of the clinical trial revealed that the neonates in the KMC group demonstrated better weight gain after the first week of life (15.9 +/- 4.5 gm/day vs. 10.6 +/- 4.5 gm/day in the KMC group and control group respectively $p < 0.05$) and earlier hospital discharge (27.2 +/- 7 vs. 34.6 +/- 7 days in KMC and control group respectively, $p < 0.05$). The number of mothers exclusively breastfeeding their babies at

6 week follow-up was double in the KMC group than in the control group (12/14 vs. 6/14) ($p < 0.05$) (Ramanathan, Paul, Deorari, Taneja & George, 2001).

Kangaroo mother care can be continuous or intermittent. The procedure is most suitable for providing care to stable infants with a birth weight between 1500 and 1800 gm or gestation of 32-34 weeks. A large number of physiological and clinical benefits of KMC have been documented. Babies receiving KMC showed modest but statistically significant improvement in vital physiological parameters on all 3 days. According to Bera (2014) without using special equipment, the KMC strategy can offer improved care to LBW babies.

Benefits of Kangaroo Mother Care

1. Kangaroo Mother Care results in increased breastfeeding rates also the duration of breast feeding.
2. Prolonged skin-to-skin contact stabilizes the baby's body temperature
3. Stabilizes vital signs of babies
4. Reduces risk of nosocomial infections.
5. Babies cry less and help to improve sleep as well.
6. It promotes infant – mother bonding.
7. It decreases the hospital stay to minimal by stabilizing the baby.
8. Babies receiving KMC have more regular breathing pattern and fewer predispositions to apnea.
9. KMC leads to a significant reduction of neonatal mortality when compared to conventionally cared babies {All India Institute of Medical Sciences (AIIMS) & World Health Organization (WHO), 2014}.
10. Mother feels competent in caring their baby.
11. KMC does not need special equipments and facilities. It needs simple arrangements to make the mother comfortable throughout the procedure.

Eligibility Criteria for Kangaroo Mother Care

All stable LBW babies are eligible for KMC, however very sick babies needing to special care should be cared under radiant warmer initially.

- Mother: All mothers can provide KMC but she must be willing to provide KMC and free from serious illness.
- Babies: All stable LBW babies are eligible for KMC.
- Babies having birth weight of >1800g as they are generally stable at birth; therefore KMC can be initiated soon after birth.
- Babies having birth weight between 1200 -1799g might take a few days to initiate KMC as they usually have significant problems in neonatal period.
- Babies with birth weight < 1200 g may frequently develop serious prematurity related morbidity (Ghai, 2012). It may take days to weeks before baby's condition allows initiation of KMC

Procedure of Kangaroo Mother Care

- Mother can wear a comfortable dress which is open in the front like Nepali cholo, gown etc. that is culturally acceptable too.
- The baby should wear cap, socks and napkin.
- The baby should be placed between the mother's breasts in an upright position.
- Head of the baby should be turned to one side and in a slightly extended position.
- Hips should be flexed and abducted in a "frog" position; the arms should be flexed. Finally the baby will be in Kangaroo position.
- Baby's abdomen should be at the level of the mother's epigastrium as a result the baby will have enough area for abdominal breathing. Mother's breathing stimulates the baby thus reducing the occurrence of apnea.
- Support baby with the binder such that the top of the binder is just under the baby's ears and the

bottom of the baby is supported in a way that baby doesn't slip out when mother stands up.



Fig: 1 Method of Kangaroo Mother Care

- Monitor the babies receiving KMC carefully; mother observes the baby throughout the period of KMC.
- Mother should be explained about holding the baby near the breast stimulates milk production, support the lower part of the jaw of baby with her thumb and fingers to prevent blocking of airway of baby and that she can breastfeed or express the breast milk directly to baby's mouth during KMC.
- The skin to skin contact should be as continuous as possible, day and night as long as it is comfortable to both mother and baby that is the length of skin-to-skin contact should be gradually increased up to 24 hours a day that is interrupted only for changing diapers. Minimum duration of 6-8 hours should be practiced (AIIMS WHO, 2014).

Conclusion

Kangaroo Mother Care is simple and cost-effective technique that can be done by mother and family. It can be continued at home after the termination of hospital stay. Kangarooing is an effective way to meet baby's needs for warmth, breastfeeding, clean environment, human contact, safety, mother and child bonding. Kangaroo Mother Care can help to avoid complications as it is a standard care for low birth weight babies in Nepalese setting. So, health professionals should counsel and encourage mothers for kangaroo mother care who have low birth weight babies.

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