

EFFECT OF KANGAROO MOTHER CARE ON WEIGHT GAIN IN LOW BIRTH WEIGHT BABIES

MadhaviK¹, KireetiAS², Shankar Reddy D³, Ravikumar P⁴

ABSTRACT

Background: The term Kangaroo Mother Care (KMC) is derived from practices similar to marsupial care. It is an alternative to conventional neonatal care for LBW babies. Main components of KMC are- Skin to skin contact between mother and baby, exclusive breast feeding, early discharge and follow up. The advantages of KMC are, it reduces the overall mortality of the baby, increases the confidence and self-esteem in mother and bondage between mother and baby. **Aim and objective:** To assess the weight gain in low birth weight babies with KMC care. **Methodology:** It is a prospective observational study conducted in a tertiary care hospital at Tirupati. All new born babies less than 1800 grams weight,

accepting oral feeds are included in the study. After initiation of KMC, mother was instructed to record the duration of KMC practiced. Baby's weight is monitored at the time of enrolment, daily in the morning and at time of discharge. During this study period baby is also monitored for complications like hypothermia, apnea, sepsis and jaundice. If any complications arise baby is withdrawn from the study and necessary intervention is done. KMC is continued till discharge of baby. **Results:** Significant weight gain is observed in babies with proportionate to the duration of KMC practice. **Conclusion:** Kangaroo mother care for low birth weight babies is the need of the hour for better survival and better quality of life.

Key words: Burden; Caregivers; Epilepsy

Introduction

The term Kangaroo Mother Care (KMC), is derived from practices similar to marsupial care [1]. The term KMC was coined by Dr. Edgar Rey in 1978 in Bagota, Colombia [2]. It is an alternative to conventional neonatal care for Low Birth Weight babies [3].

In KMC there will be skin to skin contact between mother and baby. It helps to provide warmth to the baby to prevent hypothermia. It will facilitate and promote the exclusive breast feeding there by it causes weight gain in LBW babies. Mother will be trained and encouraged to give KMC at home. This will lead to early discharge and follow up.

The advantages of KMC, **FOR THE BABY** - It reduces the overall mortality of the baby. It

facilitates early breast feeding and prevents hypothermia, and infections. Better somatic growth and psycho motor development is observed. KMC will reduce the duration of the hospital stay. **FOR THE MOTHER:** This will increase the confidence and self-esteem in the mother. The skin to skin contact will promote the bonding between mother and baby. **FOR THE COMMUNITY :** KMC is the most cost effective and economical care which can be given to the LBW babies. It does not require hospital staff other than for conventional care. It can be given at home. With this background the present study is conducted to reinforce the advantage of KMC when compared to conventional care which is an economic burden to the community.

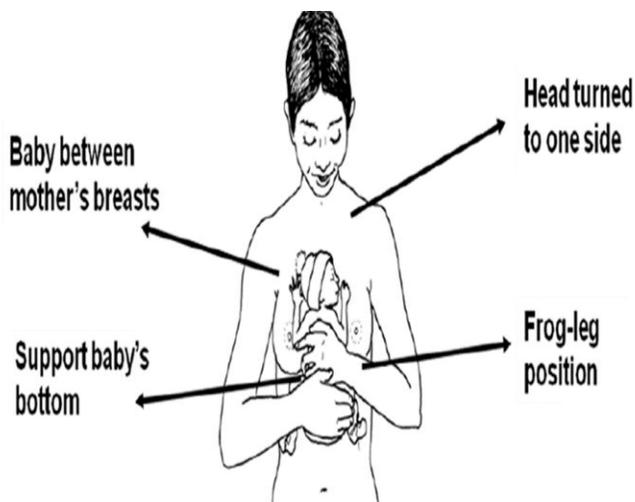
Methodology:

Study Design: This was a hospital based prospective observational study to assess the effective weight gain of the LBW babies with KMC practice. Study Setting: The study was undertaken in the neonatal unit attached to a tertiary care hospital at Tirupati after getting institutional ethical committee approval. Study period: It was conducted over a 6 month period from June 2014 to December 2014. Subjects: 58 babies are included in the present study with the inclusion criteria of all new born babies whose weight was less than 1800 grams, hemodynamically stable and accepting oral feeds either direct or expressed breast milk were included in the study.

Before initiation of KMC mother was instructed about advantages of KMC and the steps of KMC (in their mother tongue) and was motivated to give KMC care. Instructions, steps & advantages of Kangaroo Mother Care displayed in Telugu language in KMC Room at Neonatal wing of Tertiary care Hospital.

After initiation of KMC, the mother was instructed to record the duration of KMC which she practiced. Baby's weight was monitored at the time of enrolment, daily in the morning and at time of discharge from the hospital.

During this study period baby was also monitored for complications like hypothermia, apnea, sepsis and jaundice. If any complications arose in the baby which was withdrawn from the study and necessary intervention was taken. KMC is continued till the discharge of baby from the facility. The method by which the KMC was practiced was depicted in the line diagram.



Results:

Total of 58 new born who were enrolled in the study and followed up to discharge. Table:1 shows the weight of the newborn at enrolment of the study.

Table:1 No. of babies grouped as per their weight at enrollment.

S.NO	WEIGHT ENROLLMENT Grams)	AT (in	No. of babies (n=58)
1	< 1200		5
2	1200-1500		28
3	1500-1800		25

Among these 58 babies, KMC was initiated within 7 days after delivery in 5 babies. And in 41 babies it was initiated between 1 to 2 weeks. But in 12 babies it took more than 2 weeks to initiate KMC.

Table:2 describes the duration of KMC provided to the babies which was recorded by the mothers themselves in the format given to them.

Table:2 Duration of KMC provided.

S.NO	Duration of KMC (in hours)	No. of babies (n=58)
1	< 4 hrs.	11
2	4-8 hrs.	28
3	8-12 hrs.	14
4	>12 hrs.	05

Table:3 reveals the weight gain observed in the study group depending upon the duration of the KMC practice. By this the average weight gain of **19.66grams** was observed by KMC

Table:3 Duration of KMC and weight gain.

S.NO	No. of babies (n=58)	Duration of KMC (in hours)	WEIGHT GAIN (grams /day)
1	11	< 4 hrs.	08.98± 2.82
2	28	4-8 hrs.	17.41 ± 3.97
3	14	8-12 hrs.	26.78 ± 4.90
4	05	>12 hrs.	35.72 ± 2.97

(*f* ratio – 71.6; *p* value - <0.001). Average weight gain: 19.66grams/day

DISCUSSION:

In low birth weight babies of less than 1800 grams who are unable to maintain their body temperature, KMC is at least as safe and as effective as traditional care with incubators infant radiant warmers. Though we have not compared our data with the conventional care, the present study revealed that there was significant average daily weight gain observed in babies who had received KMC. Ramanathan *et al* [4], Mahesh Gupta *et al* [5] and Suman Rao *et al* [6] studies also reinforced the greater weight gain with the KMC practice. Table:4 shows the average weight gain observed in various studies conducted. The average weight gain in the present study was 19.66 grams per day which was comparable with the existing studies.

Table:4 Comparison of weight gain in different studies.

S.NO	Name of the study	Average weight gain
1	Ramanathan et al [4]	15.90grams/day
2	Mukesh Gupta et al [5]	21.30 grams/day
3	Suman Rao et al [6]	21.30 grams/day
4	Present study	19.66 grams/day

The gaining weight was directly proportionate to the duration of KMC. As no LBW baby in the present study suffered from hypothermia, this technic is successful in prevention of hypothermia. It has been observed in the present study that mothers did not have any feeling of discomfort in keeping the baby in KMC position.

CONCLUSION:

Weight gain is significant in babies with KMC care. It is proportionate to the duration of KMC practice. Kangaroo mother care for low birth weight babies is the need of the hour for better survival and better quality of life. Even though the sample size for the study was small, the present study found that KMC, a technique developed to combat the burden of overcrowding of neonatal units,

delivers ideal condition for LBW infants to thrive. So use of this technic would humanize the practice of LBW care, promote the breast feeding and shorten the hospital stay without compromising survival, growth and development. However, in India home deliveries are more common and home care of LBW babies is a challenge. KMC because of its simplicity may have a place in home care of LBW babies which result in reducing the load of neonatal units.

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AUTHOR(S):

1. Dr.Madhavi K, Postgraduate, Dept. of Paediatrics, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh, India
2. Dr.Kireeti A.S, Associate Professor, Dept. of Paediatrics, Sri Venkateswara Medical College, Tirupati, A.P.
3. *Dr.Shankar Reddy D, Assistant Professor, Dept. of Community Medicine, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh, India*
4. Dr.Ravikumar P, Professor, Dept. of Paediatrics, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh, India

CORRESPONDING AUTHOR:

Dr A.S.Kireeti, Associate Professor, Dept. of Paediatrics, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh, India. Email: askireeti@gmail.com