

Effect of kangaroo father care versus no kangaroo father care in preterm low birth weight neonates on the duration of SNCU stay

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Abstract

Background: Kangaroo mother care (KMC) is a humane, low-cost method of care of low birth weight (LBW) infants particularly for those weighing less than 2000 g at birth. It consists of skin-to-skin contact. Perinatal care typically focuses on the postpartum mother and her newborn infants. Postpartum father-neonate skin to skin contact engenders strong feelings in the father for his newborn, increases the infant's environmental stimulation, provides critical emotional support, and encourages the father to become actively involved in infant caring responsibilities. Fathers may assume a greater role in early postpartum parental touch when new mothers are physically weak and emotionally stressed. Proposed study aims to study the effect of Kangaroo father care on the duration of hospital stay of the baby. **Materials and Methods:** A prospective comparative study was conducted in SNCU(Sick Neonata Care Unit) where 100 preterm low birth weight babies , 50 in study group (KMC+ KFC) and 50 in control group (only KMC) were enrolled in the study after fulfilling the inclusion and exclusion criteria. The Control group received only Kangaroo Mother Care. The study group received the Kangaroo Mother Care as per the control group and Kangaroo father care was given during a fixed time of the day and the duration was for 2 hours for at least 5 times a week. Duration of NICU stay, and exclusive breast-feeding rates were studied in both the groups. **Results:** 100 babies, 50 in each group were analyzed. After involving fathers in Kangaroo care we found out that there was no difference in the duration of NICU stay in both the groups. The minimum – maximum range of age at NICU discharge in KMC+KFC Group and only KMC Group was 10 – 56 days and 7 – 60 days respectively. In our study exclusive breast-feeding rates in KMC + KFC group was 63.6 % compared to 55.7 % in KMC group. Mothers and fathers subjectively perceived less anxiety and less stress after giving Kangaroo care. **Conclusion:** There were no statistical differences in duration of SNCU stay and weight gain. Subjectively perceived, fathers felt satisfied and happy after involving in Kangaroo care. Similarly, mothers were less anxious, and more satisfied after father started giving KFC. Parents also observed increased understanding between themselves and more bonding after mutually involving in Kangaroo care. Thus Kangaroo Father care has no harm, it is a baby friendly initiative, it is doable, feasible and can be applied in all NICUS.

Keywords: KMC (Kangaroo Mother Care), KFC (Kangaroo Father care), exclusive breast feeding.

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INTRODUCTION

Kangaroo mother care (KMC) is a humane, low-cost method of care of low birth weight (LBW) infants particularly for those weighing less than 2000 g at birth. It consists of skin-to-skin contact. Perinatal care typically focuses on the postpartum mother and her newborn infants. Reflecting this phenomenon, most perinatal care research has focused on the mother during the pregnancy and birthing experience, excluding the feelings and functions of the father. Postpartum father-neonate skin to skin contact engenders strong feelings in the father for his

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newborn, increases the infant's environmental stimulation, provides critical emotional support, and encourages the father to become actively involved in infant caring responsibilities. Several studies affirm that early father-neonate contact not only fosters a close father-neonate relationship, but also hastens the development of paternal attachments. Touching, massaging, and hugging an infant as well as learning to respond appropriately to an infant's crying each help new fathers properly interpret changes to infant appearance and behaviour; provide appropriate information; reduce parenthood discomfort and anxiety; better prepare for parenting role responsibilities; and increase infant care confidence. These benefits suggest that fathers may assume a greater role in early postpartum parental touch when new mothers are physically weak and emotionally stressed. Proposed study aims to study the effect of Kangaroo father care on the duration of hospital stay of the baby during the NICU stay.

AIM: To study the effects of involvement of fathers in Kangaroo care on the duration of NICU stay.

OBJECTIVE: To study the effect of father's involvement over the infant feeding pattern in the form of exclusive breast-feeding rate at NICU discharge

MATERIALS AND METHODS

Study site: Sick Neonatal Care Unit, District Hospital, Shivpuri.

Study population: All the preterm low birth weight babies less than 2000 grams admitted in SNCU qualified for Kangaroo mother care during the study period.

Study design: Prospective comparative study.

Sample size: All the preterm low birth weight neonates eligible for Kangaroo Mother care as per the inclusion criteria will be included in the study. Total 100 babies were enrolled, out of which 50 were included in the study group i.e Kangaroo father care and Kangaroo mother care both and 50 babies in the control group i.e Kangaroo mother care alone. Time Frame to address this study: January 2021 to October 2021.

METHODOLOGY

This hospital based prospective Comparative study, was conducted in Sick Neonatal Care Unit of District Hospital Shivpuri Madhya Pradesh from January 2021 to October 2021 As per inclusion criteria preterm babies were

included. Informed written consent was taken from the parents. Fathers and mothers were counselled about the benefits of Kangaroo father care and kangaroo mother care and their role in neonatal care. Fathers were trained in detail the technique of Kangaroo care.

Father's Clothing: Kangaroo care demands loose and front open clothing. Fathers were asked to wear front open shirt. They were asked to have a proper bath before giving skin to skin care for their babies Kangaroo Technique. The baby was placed over mother's/father's chest in an upright position. The head turned to one side and in a slightly extended position. This slightly extended head position keeps the airway open and allows eye to eye contact between the mother/ father and the baby.

The hips were flexed and abducted in a "frog" position; the arms were flexed. Baby's abdomen was at the level of the nursing parents' epigastrium. Baby's bottom was supported with a sling/binder.

Duration:

Study Group: Kangaroo mother Care: As per the protocol (at least 1-2 hours / sitting), Kangaroo father Care: 2 hours a day for atleast 5 times a week.

Control Group: Kangaroo mother care: As per the protocol (at least 1-2 hours/ sitting)

RESULT

A total of 100 babies, 50 in each group were analyzed. After involving fathers in Kangaroo care we found out that there was no difference in the duration of NICU stay in both the groups. The minimum – maximum range of age at NICU discharge in KMC+KFC Group and only KMC Group was 10 – 56 days and 7 – 60 days respectively. The distribution of median age at NICU discharge among the babies studied did not differ significantly between two study groups. In our study exclusive breast-feeding rates in KMC + KFC group was 63.6 % compared to 55.7 % in KMC group. This could be an indirect effect of father involvement in neonatal care leading to more emotional support to mothers However the cumulative weight gain in Kangaroo mother and father care was more as compared to only Kangaroo mother care group. Mothers and fathers subjectively perceived less anxiety and less stress after giving Kangaroo care. We also observed increased exclusive breast-feeding trend in the study group (KMC + KFC) as compared to the control group.

Table 1: Inter-group comparison of age range at NICU discharge

Age at NICU discharge (days)	Group A (n=50)	Group B (n=50)
	Min – Max	Min – Max
Age at NICU discharge (days)	10.0 – 56.0	7.0 – 60.0

Table 2: Inter-group distribution of exclusive breast feeding at discharge

Exclusive breast feeding at discharge	Group A (n=50)		Group B (n=50)	
	n	%	n	%
Yes	32	63.6	28	55.7
No	18	36.4	22	44.3
Total	50	100.0	50	100.0

DISCUSSION

Most of the literature focuses on the maternal infant bond and neglects to address the need for paternal-infant bonding. Evidence indicates early father involvement is important to outcomes of both healthy and preterm infants. Healthy infants whose fathers participated in their care have improved cognitive development,¹⁶ decreased crying after caesarean section birth,¹⁷ improved maternal breastfeeding success,¹⁸ and improved infant sleep patterns. “Being able to act” is of great importance for fathers of premature infants, and that fathers are ready to relate to their newborn early on.¹⁹ Our study finds similar experiences. The fathers emphasize the importance of practical skills and the ability to “act” and gain an important role due to the use of the skin-to-skin contact method. The fathers feel satisfaction in being able to care for their infant in a competent manner. The Skin-to-skin contact method helps to “unlock the door” to caregiving personality traits. According to both the attachment theory and the gender role theory presented, the early experiences with a caregiving relationship constitute the basis for the fathers to be able to care for their own child (Chodorow, 1999; Madsen et al. 2002) Shefaly Shorey et al summarized research evidence on the impact of father-infant skin-to-skin contact on infant and paternal outcomes.²⁰ They included twelve studies (10 quantitative and two qualitative) in this review. They found out that Father-infant skin-to-skin contact had positive impacts on infants’ outcomes, including temperature and pain, biophysiological markers, behavioural response, as well as paternal outcomes, which include parental role attainment, paternal interaction behaviour, and paternal stress and anxiety. Father visitation along with mother visitation contributes to a shorter length of hospital stay for their preterm infants¹³ which may result in medical cost savings. A randomized controlled trial conducted by Ortenstrand et al in 2 NICUs (both level 2), including a standard care (SC) ward and an FC (Family care) ward, where parents could stay from infant admission to discharge showed that the total length of hospital stay was reduced by 5.3 days: from a mean of 32.8 days (95% confidence interval [CI]: 29.6 – 35.9) in SC to 27.4 days (95% CI: 23.2–31.7) in FC.⁷ The present study focuses on father and infant bonding in sick neonatal care unit and its effect on duration of hospital stay. Though there was no significant difference in the duration of hospital stay, to get positive correlation

between SNCU stay and KFC more sample size should be studied

CONCLUSION

There were no statistical differences in duration of NICU stay and weight gain. Subjectively perceived, fathers felt satisfied and happy after involving in Kangaroo care. They noticed reduced anger and anxiety after giving Kangaroo care. Similarly mothers were less anxious, and more satisfied after father started giving KFC. Parents also observed increased understanding between themselves and more bonding after mutually involving in Kangaroo care. Thus Kangaroo Father care has no harm. It is a baby friendly initiative, it is doable, feasible and can be applied in all NICUs.

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