

KANGAROO MOTHER CARE: NO MORE INCUBATOR CARE

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ABSTRACT

Kangaroo mother care (KMC) is the concept of rearing a premature or low birth baby in an environment where he can get the basic needs of his early days i.e. the warmth, the nutrition and the close observation for the complications he is prone to, like apnea of prematurity. KMC has three components. The first is the kangaroo position. Once the premature infant has adapted to extrauterine life and is able to breastfeed, he is positioned between the mother's breasts or the center of the father's chest, in an upright position, with direct skin-to-skin contact. The second component is kangaroo nutrition. Breastfeeding is the prime source of nutrition in this method of care; infants also may receive preterm formula whenever necessary. The third component is the clinical control, infants are monitored on a regular daily basis, until they are gaining at least 20 g per day.

Premature birth is a major contributor to infant mortality especially in developing countries. The death of premature and low birth weight babies is the leading cause of our high early neonatal mortality rates. The main causes for the high mortality of these babies in our circumstances are the lack of facilities for keeping these babies at thermoneutral environment and early initiation of breast-feeding. This method can very easily and economically solve our these problems and this method must be adopted in order to reduce our neonatal mortality at no extra cost.

CONCEPT OF KANGAROO MOTHER CARE

Most new parents get to bond with their babies immediately after birth but those parents with premature babies may have to wait weeks before ever holding their baby.

With the help of "Kangaroo Care," however, parents of premature babies are getting to hold their newborns much sooner – and help their little ones at the same time.

Kangaroo mother care (KMC) is a form of skin-to-skin contact between a parent and their preterm baby. The baby, wearing only

a diaper, is held in an upright position against the parent bare chest. The baby is held this way for 20 minutes to four hours a day. This is called Kangaroo mother Care because it is similar to the way a baby kangaroo is snuggled against its mother.¹

HISTORY OF KANGAROO MOTHER CARE

In 1970, physicians in Bogota, Columbia developed Kangaroo Care in response to an overcrowded nursery with a lack of medical staff, and high infant abandonment.² Kangaroo mother care soon spread to countries in Europe and is becoming widespread throughout the United States.³ When this method proved successful in developed countries some developing countries with funding from UNICEF, and developed countries have introduced skin-to-skin contact in nurseries for premature infants with very good results.^{3,4}

Co-sleeping, defined as the practice of having an infant or young child share a bed with his or her mother (and often father as well), is as old a phenomenon as the human history^{5,6}. Parent-infant co-sleeping may occur in different formats with different degrees of parental proximity and contact, which may include bed sharing or sleeping in skin to skin contact with a parent.^{5,6}

Benefits of Kangaroo mother Care

"The UNICEF call this Program as a ray of hope for the millions of children throughout the world who are born premature and underweight."⁷

The results are significant in terms of temperature stability and the heart beat of the baby, as well as the proportional comfort and the bonding that results between mother and child.⁸ The proximity also easily permits breast-feeding and is an excellent time for the baby to spend time at non-nutritive sucking. Which is not possible when the mother

returns to her home, leaving the child in the incubator.^{8,9}

The incidence of apnea of prematurity and gastro-esophageal reflux is significantly reduced, which are the two important complications of premature babies in conventional care.^{10,11} The hospital stay and hence the work load on the hospital staff was significantly reduced by the KMC.^{11,12}

This method has improved mothers' confidence in rearing her low birth premature babies and a significant positive adaptation to infant cues that lead to improved infant's perceptual-cognitive and motor development. This method should ensure the successful discharge of a fragile infant from the NICU by enhancing family care giving^{13,14}

Studies have looked at the use of KMC for full-term babies as well and determined that KMC is beneficial in promoting healthy body temperatures and glucose levels as well as reducing crying time in full-term infants.¹⁵

When to Start Kangaroo mother Care?

The baby should be stable on room air, or receiving minimal breathing support. The baby should be able to maintain a normal temperature, heart rate, and oxygen level when handled.¹⁶

Method of Kangaroo mother care

Start by letting your baby's nurse know you would like to kangaroo with your baby. Together you can decide when the baby is ready. Next, set up a time that will fit into both your and your baby's schedules. Mother wears a blouse or shirt that opens in the front. The baby, wearing only a diaper, is placed on bare chest of the mother in an upright position. The baby is covered with the shirt, gown, or a blanket. Mothers and fathers are both encouraged to Kangaroo. The feel of your bodies are different and will

provide different sources of stimulation to the baby.¹⁷

Scientific confirmation

Studies around the world have produced scientific reports on the Kangaroo Mother Program, all providing conclusive proof of the efficiency and acceptability of the method.

Bergman NJ and Jurisoo L 1994, reported the introduction of the 'kangaroo method' as the exclusive means of treating low birth weight (LBW) babies in the context of a mission hospital in a developing country without incubators and standard equipment for care of LBW neonates. The survival of babies born under 1500 g improved from 10% to 50%, whereas that of babies 1500-1999 g improved from 70% to 90%. The method is well accepted by the community, and easily grasped by all hospital staff. Staff expectations concerning survival have dramatically improved, and a considerable saving in workload is experienced.¹⁸

Ludington-Hoe SM, 1994 reviews the result of two studies showing the effects of 2 to 3 hours kangaroo mother care (KMC). Both studies incorporated a pretest/posttest control group design. Heart rate and abdominal skin temperature rose for KMC infants. Heat loss did not occur during KMC and infants slept more during KMC. Kangaroo care had a comforting effect on infants and their mothers. Apnea and periodic breathing episodes decreased significantly during KMC.¹⁹

Nathalie Charpak, Juan G et al 1996, conducted a randomized, controlled trial in a large tertiary care hospital. All newborn infants 2000 g, surviving the neonatal period were included. A total of 382 patients were given KMC and 364 traditional care. Infants spent 24 hours per day in an upright position, in skin-to-skin contact, and attached to the mother's chest. Both groups are being followed up to 12 months of

corrected age. Results showed that nosocomial infections were more frequent in control infants. Hospital stay was shorter in KMC, primarily for infants of 1800 g.²⁰

Most of the published studies on skin-to-skin contact have focused on the physiological benefits to the infant. Anderson, 1991 investigated this impact of KMC on the mother's perception of giving birth as well as on the mother and child's responsiveness to each other. Based on the general bonding hypothesis they suggested that KMC creates a family atmosphere in which parents become more exposed to sensitive care giving.²¹ Ruth Feldman and Arthur I 2002, compared seventy-three preterm infants who received KMC in the neonatal intensive care unit with 73 control infants who received standard incubator care for birth weight, gestational age (GA), medical severity, and demographics. After KMC, interactions were more positive at 37 weeks' GA: mothers showed more positive affect, touch, and adaptation to infant cues, and infants showed more alertness and less gaze aversion. Mothers reported less depression and perceived infants as less abnormal. It was concluded that KMC had a significant positive impact on the infant's perceptual-cognitive and motor development and on the parenting process.²²

Réjean Tessier and Marta Cristo 1998, made two observations from their study of KMC. The first is the mother's feelings and perceptions of her premature birth experience, including her sense of competence, feelings of worry and stress, and perception of social support. The second outcome is derived from observations of the mother and child's responsivity to each other during breastfeeding. From these observations they suggested that KMC should be promoted actively and that mothers should be encouraged to use it as soon as possible during the intensive care.²³

CONCLUSION

Pakistan has one of the highest infant mortality rates, even among the developing countries. Neonatal mortality accounts for half of the infant mortality rate. Premature and low birth weight babies are the main factors responsible for the high infant mortality rate. Small and premature babies are at particular risk of hypothermia because they lack subcutaneous fat and have a very immature heat regulating system. Hypothermia leading to high neonatal mortality comes into action in northern areas of Pakistan in winter seasons, where temperature goes well beyond freezing point and the available resources for keeping these babies in thermoneutral environment are equal to nil.

Research projects in Western Europe and the United States provide data that support the safety and effectiveness of this method. Looking into the favorable results of the previous studies on kangaroo mother care and its practicability, it is very much needed to adopt this method of care in premature and low birth weight babies in Pakistan in general and in northern areas in particular, if we are trying to cut down our infant mortality rates.

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CORRIGENDUM

Subsequent to the publication of article "Chemical pleurodesis, and effective symptomatic treatment of malignant pleural effusion" published in *JPMI* Vol. 17, No. 2: 194-198, it has been brought to the notice of editorial board that the data presented in the above article has been published previously as "Tetracycline compared with bleomycin as a pleurodesing agent in the treatment of malignant pleural effusion. A randomized trial" *Pak J Ches Medicine* Vol. 4 No. 3: 15-18.

As per policy of *JPMI*, all original research articles are published with clear understanding that the data is unpublished else where. In view of seriousness of the problem the issue was discussed in executive committee of *PGMI* and it has been decided to retract the article.

Editorial Board