

Latin American Clinical Epidemiology Network Series – Paper 9: The Kangaroo Mother Care Method: from scientific evidence generated in Colombia to worldwide practice

Nathalie Charpak^{a,*}, Juan Gabriel Ruiz^{a,b,c}

^aFundación Canguro/Kangaroo Foundation, Calle 44 b, #53-50, La Esmeralda, Bogotá, Colombia

^bDepartment of Epidemiology, Pontificia Universidad Javeriana, Carrera 7, #40-62, Bogotá, Colombia

^cDepartment of Biostatistics, Hospital Universitario San Ignacio, Carrera 7, #40-62, Bogotá, Colombia

Accepted 9 May 2016; Published online 17 October 2016

Abstract

Kangaroo Mother Care (KMC) is a human-based care intervention devised to complement neonatal care for low birth weight and premature infants. Kangaroo position (skin-to-skin contact on the mother's chest) offers thermal regulation, physiological stability, appropriate stimulation, and enhances bonding and breastfeeding. Kangaroo nutrition is based on breastfeeding, and kangaroo discharge policy relies on family empowerment and early discharge in kangaroo position with close ambulatory follow-up. We describe how the evidence has been developed and how it has been put into practice by means of direct preterm infants care and dissemination of the method, including training of KMC excellence centers in many countries not only in Latin America but worldwide. © 2016 Elsevier Inc. All rights reserved.

Keywords: Kangaroo Mother Care Method; Evidence-based medicine; Nonsystematic review; Low birth weight infant; Premature infant

Low birth weight (LBW) is either the direct or the associated cause in 44% of the 2,800,000 children's deaths occurring annually worldwide [1]. Caring for these infants is technologically challenging and poses an economic burden, which is heavier for middle- and low-income countries.

Health professionals and scientists have called for humanization of the care provided for infants and their families and have stressed the importance of the physical and emotional contact between the mother and the infant immediately after birth. This establishes a strong, healthy relationship and protects brain development in the “kangaroo microenvironment” [2,3].

In developing countries, alternative methods have been sought for incubator care of newborns because of limited technical resources. In 1978, at the “Instituto Materno Infantil” in Bogotá, Colombia, Edgar Rey developed what

is now universally known as Kangaroo Mother Care (KMC) for the care of premature or LBW infants [4].

The method involves the efficient use of available human and technological resources for premature and LBW infants, which is critical in resource-restricted settings. Kangaroo position (skin-to-skin contact on the mother's chest) offers thermal regulation, physiological stability, appropriate stimulation, and enhances bonding and breastfeeding. Kangaroo nutrition is based on breastfeeding, and Kangaroo discharge policy relies on family empowerment and early discharge in kangaroo position with close ambulatory follow-up. Nevertheless, its value is not limited to developing countries: KMC is increasingly used in neonatal units in wealthy countries to humanize neonatal care. The main aims are to promote breastfeeding, reduce pain from procedures, help the achievement of physiological stability, accelerate maturation, and end mother–infant separation. Direct skin-to-skin contact with the mother re-establishes the mother-infant bond and rescues the infant from the isolation of extrauterine life in even the warmest neonatal units [5].

KMC has progressively been accepted as an innovative method not only for decreasing mortality but also for improving the quality of life of premature and LBW infants

Funding: There are no financial statements to disclose.

Conflict of interest: There are no conflicts of interest, from any of the authors.

* Corresponding author. Fundación Canguro Calle 44b # 53-50, la Esmeralda, Bogotá, Colombia. Tel.: +57-1-745-8182.

E-mail address: ncharpak@gmail.com (N. Charpak).

What is new?

Kangaroo Mother Care is an intervention with demonstrated effectiveness and safety, which might be less expensive than usual incubator care for stable preemies. It empowers families and is preferred by parents, but there is still resistance from health care providers, slowing down the universal diffusion of the method.

Key findings

- The unique nature of Kangaroo Mother Care (KMC)—born in the “South” (Colombia) and practised during the past 10 years in different ways in all countries, irrespective of their stage of development must be recognize. KMC is a method based on evidence that emerges as the fruitful interaction between clinical relevant work, clinical epidemiology (sound and relevant research) and evidence-based quality assurance in response to a major health problem: prematurity.

What this adds to what is known?

- KMC is a means of protecting the immature brain at the most appropriate time, when it is the most fragile.

What is the implication?

- Human resources required are often available: health professionals, administrators and parents. There is no anymore excuse not to apply it. KMC should be regarded as complementary routine care, not as an option, in neonatal care.

around the world. Because the technique was developed in Colombia, the scientific community has studied the rational basis of KMC and the impact of skin-to-skin contact on physiological outcomes in hospitalized LBW infants [6,7].

By 1989, there was controversy about the effectiveness and safety of KMC [8]. A group of researchers in Colombia including one professional of the Clinical Epidemiology Unit created by INCLLEN in the Javeriana University, began the evaluation of the safety and effectiveness of KMC. First, a two-cohort study was conducted in Bogotá and followed-up periodically during 1 year. After adjusting for major baseline differences between the two cohorts, mortality was not higher in the kangaroo cohort [9].

In 1991, Anderson [10] provided a review of published and unpublished studies on the responses to limited skin-to-skin contact in hospitalized patients in developed countries. The major findings with regard to the infants were as follows: (1) temperature regulation was at least as good as that obtained inside an incubator; (2) regular breathing patterns were more frequent, with a decrease in episodes

of apnea and periodic breathing; (3) transcutaneous oxygen levels did not decrease; (4) regulation of the infants' behavioral state was better, including longer periods of alertness and less crying; and (5) infants had no additional risk for infection and the rates and duration of breastfeeding were higher.

With regard to the mothers, findings showed that they reported greater self-confidence, had a sense of fulfillment, less stress, and were more confident in breastfeeding. Some of the studies mentioned a shorter time spent in hospital and a positive change of attitude among health personnel.

In 1993, the Kangaroo Foundation (KF) was founded to develop further research, training, and advocacy for the KMC method. Responding to continued skepticism, the KF team conducted a randomized clinical trial to compare short- and medium-term outcomes among 746 LBW infants randomly assigned to KMC or to usual care, of whom 80% were preterm infants. Follow-up at 12 months of corrected age showed that KMC improved the rate of successful breastfeeding and decreased the rate of severe infections in these children. The length of the hospital stay was reduced in kangaroo newborns $\leq 1,800$ g at birth. A nonsignificant reduction in mortality (relative risk 0.57; 95% confidence interval 0.17–1.18) and slight improvements in developmental indices were found with KMC. No significant differences were evidenced in physical growth patterns, or rates of cerebral palsy, failure to thrive, visual problems, or deafness [11,12]. Analysis of blind assessments of mother–infant bonding from videos in a subsample of 488 mother–infant dyads showed a marked improvement in bonding, neurodevelopment in infants at higher risk, familial attitude toward the premature infant, and provision of a nurturing and stimulating home environment [13–15].

Between 1996 and 2005, the KF team reviewed literature that evaluated KMC worldwide. Two articles [16,17] reported reduction in mortality of infants weighing $< 1,500$ g and support the hypothesis that KMC is an acceptable alternative when technical resources are absent. A third article [18] showed that use of KMC breastfeeding and intrahospital skin-to-skin contact was as good as or better than the traditional method. The last article [19] evaluated the results of in-hospital KMC (skin-to-skin contact and breastfeeding) in a multicenter trial conducted in five countries. KMC was well accepted by health personnel in all five centers, showing that KMC may reduce costs for hospitals in developing countries with diverse cultural practices. In 2005, the KF conducted an extensive nonsystematic review of new publications on KMC [20] and concluded that research had established the rational bases of the intervention and provided evidence for its effectiveness and safety, although more research was needed to clearly define the effectiveness of the intervention in different settings and for different therapeutic goals.

Between 2010 and 2012, a pilot study was conducted in Colombia by the KF in collaboration with Laval University (Canada), in which transcranial magnetic stimulation was

Download English Version:

<https://daneshyari.com/en/article/5121765>

Download Persian Version:

<https://daneshyari.com/article/5121765>

[Daneshyari.com](https://daneshyari.com)