

The role of the nursing team in conducting the kangaroo method

El papel del equipo de enfermería en la aplicación del método canguro

A atuação da equipe de enfermagem na condução do método canguro

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How to cite this article:

Ferreira LM, Sousa RP, Garcia LM,
Marra FA. The role of the nursing
team in conducting the kangaroo
method. Glob Acad Nurs.
2023;4(Spe.1):e387.

<https://dx.doi.org/10.5935/2675-5602.20200387>

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Submission: 03-01-2023

Approval: 05-08-2023

Abstract

The Kangaroo Method (KM) has the primary purpose of increasing the mother/child bond through skin-to-skin contact. Furthermore, it contributes to a greater chance of successful breastfeeding and improves the immunological and nutritional profiles of the newborn (NB), thus reducing the stress of hospitalization and the NB's recovery time. Therefore, this study aims to demonstrate the importance and contribution of the nurse as a health professional in the care of the NB under the KM. This is an exploratory study, with research conducted in the following databases: Scientific Electronic Library Online, Google Scholar, and the Ministry of Health, in addition to undergraduate textbooks related to the topic and the collection of the Atenas University Center library. Analysis of the studies allowed us to conclude that the nursing team is of great importance for the care of low-birth-weight NBs hospitalized in the Neonatal Unit, aiming at health promotion.

Descriptors: Kangaroo Method; Newborn; Nursing Care; Pediatrics; Neonatology.

Resumén

El Método Canguro (MC) tiene como objetivo principal fortalecer el vínculo materno-infantil mediante el contacto piel con piel. Además, contribuye a una mayor probabilidad de éxito en la lactancia materna y mejora el perfil inmunológico y nutricional del recién nacido (RN), reduciendo así el estrés de la hospitalización y el tiempo de recuperación. Por lo tanto, el objetivo de este estudio es demostrar la importancia y la contribución de la enfermera como profesional de la salud en el cuidado del RN bajo el MC. Se trata de un estudio exploratorio, cuya investigación se realizó en las siguientes bases de datos: Biblioteca Científica Electrónica en Línea (SEL), Google Scholar y el Ministerio de Salud, además de libros de texto de pregrado relacionados con el tema y la colección de la biblioteca del Centro Universitario Atenas. El análisis de los estudios permitió concluir que el equipo de enfermería es fundamental para el cuidado de los RN de bajo peso al nacer hospitalizados en la Unidad Neonatal, con el fin de promover su salud.

Descriptores: Método Canguro; Recién Nacido; Cuidados de Enfermería; Pediatría; Neonatología.

Resumo

O Método Canguru (MC) tem como finalidade primordial aumentar o vínculo mãe/filho por meio do contato pele a pele. Além disso, contribui para uma maior chance de sucesso no aleitamento materno e melhora dos perfis imunológico e nutricional do recém-nascido (RN), diminuindo assim o estresse da internação e o tempo de recuperação do RN. Dessa forma, o objetivo deste estudo é expor a importância e a contribuição do enfermeiro como profissional de saúde no cuidado do RN sob o MC. Este é um estudo exploratório, com pesquisas realizadas nas bases de dados: *Scientific Electronic Library Online*, Google Acadêmico e no Ministério da Saúde, além de livros de graduação relacionados ao tema e do acervo da biblioteca do Centro Universitário Atenas. Com a análise dos estudos, foi possível concluir que a equipe de enfermagem é de grande importância para o cuidado dos RNs de baixo peso internados na Unidade Neonatal, buscando a promoção da saúde.

Descritores: Método Canguru; Recém-Nascido; Cuidados de Enfermagem; Pediatria; Neonatologia.



Introduction

Neonatal care ensures respect and safety for the newborn, facilitates bonding between mother and child, and leads to the welcoming of the newborn along with their family. However, it is necessary to understand neonatal mortality rates and implement intervention measures to reduce them. Therefore, when considering the neonatal period, it is known that low birth weight and prematurity are factors that lead to a higher number of deaths in the first days of life. Thus, the classification of newborns is necessary to estimate this risk¹.

Preterm newborns can be classified as: borderline preterm, which includes the period from 35 to 36 weeks and 6 days of gestational age; moderate preterm, from 31 to 34 weeks and 6 days of gestational age; and extremely preterm, when less than 30 weeks and 6 days of gestational age. Regarding weight, newborns can be classified as: low birth weight when weighing less than 2500g, very low birth weight when weighing less than 1500g, and extremely low birth weight when weighing less than 1000g¹.

In this context, the Kangaroo Method (KM) was created by Reys Sanabria and Hector Martins in Colombia in the 1970s. However, it only arrived in Brazil in the 1990s and was implemented in the 2000s. Therefore, KM is a public policy that is being expanded and strengthened².

The pursuit of holistic care knowledge among healthcare professionals is becoming increasingly important. Nursing, through its role in providing care and guidance to families regarding the newborn, plays a major part in the application of holistic care. Therefore, nurses can be considered key agents in the execution of holistic care, which strengthens the bond between the newborn and the family³.

The kangaroo mother care method is divided into three stages⁴. The process is as follows: the first stage begins during prenatal care, providing guidance and specialized care. Immediately after birth, the newborn is admitted to the neonatal ICU or the Conventional Neonatal Intermediate Care Unit (UCINCo). This stage involves specialized care, including encouraging free access for the partner or caregiver, welcoming the parents and family, and offering comprehensive support to the mother and family. The second stage takes place in the Kangaroo Mother Care Unit (UCINCa); this stage ensures all the care initiated in the first stage, with special attention to breastfeeding. Furthermore, in this stage, the newborn remains with the mother for the longest time in the kangaroo position, and the father's presence and participation in care should be encouraged. The third stage is when newborns are discharged from the hospital and will be monitored jointly by the hospital team and the primary care team using the kangaroo method. In this stage, the mother must be informed, confident, and motivated to provide home care for the newborn. Therefore, after hospital discharge, the newborn will always need to be monitored by the healthcare team.

However, the Kangaroo Method was developed to increase the bond between mother and family while still in the Neonatal Intensive Care Unit, improving the prognosis of low birth weight newborns. It is believed that the nursing team should provide support and care, in a humanized and

individualized way, to the mother-child-family unit. When guiding the first care of the newborn, this team needs to explain how the Kangaroo Mother Care method works and its importance for the newborn, thus reducing the neonatal mortality rate. The Kangaroo Method is widely known for providing early strengthening of the mother-child bond through skin-to-skin contact, which was interrupted by prematurity. Furthermore, there is a greater chance of successful breastfeeding, an improved immune profile, and better nutritional quality for the newborn, which reduces the stress of hospitalization and the baby's recovery time.

Given the above, this study aimed to understand how the nursing team acts in relation to the mother-child dyad in the application of the kangaroo mother care method.

Methodology

This is an exploratory study, which aims to put the researcher in direct contact with everything that has been written or said about a given subject. The steps carried out in the study will be: 1. Identification of the object of the research, 2. Research of relevant studies, 3. Selection of studies, 4. Reporting of the results obtained⁵.

This study will analyze the importance of nursing care in the implementation of the kangaroo method. The research will consist of articles deposited in the Scientific Electronic Library Online and Google Scholar databases, as well as undergraduate books related to the topic from the collection of the Atenas University Center library.

The search terms will be: "kangaroo method", "newborn", "neonatal", "mother-child bonding", and "nursing care". The search period will take place between August and November 2019 and from February to April 2020. The temporal scope of the research includes articles published between 2007 and 2019, except for the historical period, which included articles published between 2000 and 2005.

Finally, the articles and books that meet the listed criteria will be read, and their results will be used to develop this study.

Results and Discussion

The historical evolution of the kangaroo mother care method

The Kangaroo Mother Care method, a model proposed by Reyes Sanabria and Héctor Martínez at the Instituto Materno-Infantil de Bogotá, began around 1979 in Bogotá, Colombia, with the aim of improving the quality of life of newborns at a lower cost to the health system. Thus, with early hospital discharge, outpatient follow-up would become fundamental in the monitoring of neonates, with the kangaroo position being maintained at home^{6,7}.

After the creation of the Kangaroo Mother Care method in Colombia, and with its dissemination and experience, several countries around the world began to use the method, which became internationally known as Kangaroo Mother Care (KMC), also considering the fundamental and active role of the father. Since then, world meetings have been held every two years since 1996 to present published works and exchange experiences about



the method. The first meeting was in Trieste, Italy, the second in Colombia, then in Indonesia, South Africa, and finally Brazil⁸.

According to the study, the results of the method in Israel showed improved sensory development in newborns, as well as a stronger maternal bond. In India and Africa, improvements were observed with four hours of kangaroo care, breastfeeding, weight gain, physiological stability, and a decrease in infection. European countries have shown positive experiences regarding mother-child bonding, stimulation of breastfeeding, and the safety of premature

newborns. In Scandinavia, they noted improvements in physiological parameters such as temperature and metabolic changes. In the United States, they concluded that the method is safe for newborns in terms of physiological parameters when compared to traditional care (incubators)⁸.

In this context, the kangaroo mother care method was established through Ordinance No. 693/2000, launched on July 5, 2000, as the Standard for Humanized Care of Low-Birth-Weight Newborns (LBW), known as the Kangaroo Mother Care (KMC) method^{2,9}.

Chart 1. Historical milestones of the Kangaroo Method. Paracatu, MG, Brazil, 2023

Ordinance	Objectives
Ordinance No. 693 of July 5, 2000	It established the Kangaroo Method as a Public Policy and defined standards for its use.
Ordinance No. 1,683 of July 12, 2007	It revoked Ordinance No. 693 and updated the rules already established.
Ordinance No. 1,459 of June 24, 2011	It established the Stork Network within the Unified Health System (SUS), a strategy of the Ministry of Health that aims to implement a care network to ensure women's right to reproductive planning and humane care during pregnancy, childbirth, and the postpartum period, as well as to ensure children's right to a safe birth and healthy growth and development.
Ordinance No. 930 of May 10, 2012	It established the standards for the accreditation of beds in the Neonatal Unit (Neonatal Intensive Care Unit - NICU, Conventional Neonatal Intermediate Care Unit - NICU-Co, Kangaroo Neonatal Intermediate Care Unit - NICU-Ca) based on comprehensive and humanized care for critically ill or potentially critically ill newborns.
Ordinance No. 371 of May 7, 2014	It established guidelines for organizing comprehensive and humanized care for newborns at the time of birth in healthcare facilities that perform deliveries.
Ordinance No. 1,153 of May 22, 2014	It updated the Baby-Friendly Hospital Initiative (BFHI), incorporating, in addition to the "Ten Steps to Successful Breastfeeding and the Brazilian Standard for Marketing of Foods for Infants and Young Children (NBCAL)," the guarantee of free access for parents and the presence of one of the two with the newborn full-time, and Mother-Friendly Care.
Ordinance No. 1,130 of August 5, 2015	It established the National Policy for Comprehensive Child Health Care (PNAISC) within the scope of the Unified Health System (SUS). The PNAISC is structured around 7 (seven) strategic axes, with the purpose of guiding and improving the quality of child health actions and services throughout the national territory.
Law No. 13,257 of March 8, 2016	This law addresses public policies for early childhood and amends Law No. 8,069, of July 13, 1990 (Statute of the Child and Adolescent). "Healthcare facilities, including neonatal, intensive care, and intermediate care units, must provide conditions for the full-time presence of one parent or guardian in cases of hospitalization of a child or adolescent".

Source: Brazil¹⁰.

In Brazil, the Kangaroo Mother Care (KMC) method is a public policy that is being expanded and strengthened with the goal of reducing maternal and neonatal mortality. The first reports of KMC were in the city of Santos-SP, in 1991, at the Guilherme Álvaro Hospital (HGA), and from this milestone, some Brazilian hospitals began to establish kangaroo position practices, without well-defined technical criteria. In 1997, in Pernambuco, the Instituto Materno Infantil de Pernambuco (IMIP) began implementing the method. Furthermore, the same Institute was a finalist, with the project "Kangaroo Ward," in a social projects' competition held by the Ford Foundation and the Getúlio Vargas Foundation. Today, IMIP is known as the Instituto de Medicina Integral Professor Figueira^{11,12}.

From January 27th to 29th, 1999, IMIP hosted the 1st National Kangaroo Mother Care Meeting, attended by representatives from hospitals already practicing the method, such as César Cals (Ceará), Frei Damião (Paraíba), Leila Diniz Maternity Hospital (Rio de Janeiro), Sofia Feldman Maternity Hospital (Minas Gerais), and Guilherme Álvaro Hospital (São Paulo), along with representatives from the Ministry of Health. On March 16th and 17th, 1999, an important event took place in Rio de Janeiro, which included several other hospitals besides those mentioned, intending to present the new model of care for preterm newborns to the guests, since many were teaching hospitals. Thus, several hospitals that had not yet implemented the method began to use it¹³.



Based on all the presented context, the Ministry of Health was motivated to observe and analyze this new method to standardize its use. Therefore, in 1999, the Health Policy Secretariat of the Ministry of Health established a meeting between different groups, including: the Brazilian Society of Pediatrics (SBP), the Brazilian Federation of Gynecology and Obstetrics (Febrasgo), the Pan American Health Organization (PAHO), the United Nations Children's Fund (UNICEF), the University of Brasília, the Federal University of Rio de Janeiro, and the State Health Secretariats of the Federal District and São Paulo, to outline guidelines to organize and standardize the method⁷.

Following several meetings, the method was standardized, and on December 8, 1999, at a seminar in Rio de Janeiro, the Standard for Humanized Care for Low-Birth-Weight Newborns - Kangaroo Method was presented by the Ministry of Health to the Brazilian scientific community. However, it was only on July 5, 2000, that it was published in the Official Gazette of the Union - Ordinance GM No. 693, which establishes the Kangaroo Method as a National Health Policy¹⁴.

Therefore, this ordinance was in effect for seven years and was updated on July 12, 2007, with the publication of Ordinance GM/MS No. 1,683. And as already mentioned in Table 1, Historical Milestones of the Kangaroo Method, over time, the method was updated, and new ordinances were published¹⁰.

Steps of the Kangaroo Method

The care advocated by the MC (Maternal-Child Development) method begins prenatally through partnerships with Basic Health Units (UBS). The health team's role is to guide the method's operation, its meaning, the benefits for the newborn and the mother, and explain the family's participation, including the father, siblings, grandparents, and others. In the first prenatal consultations, we can detect potential gestational risks, which may be fetal or maternal. When identified, the pregnant woman is referred to institutions that offer what is called Specialized Prenatal Care. Thus, she will receive specialized and comprehensive care and may also have family support⁴.

The Kangaroo Method is divided into three stages.

- First stage: The newborn is admitted to the NICU (Neonatal Unit) and family members are briefed on all procedures. In this way, the healthcare team seeks to minimize separation between the newborn and their parents. In addition, the healthcare team should offer basic guidance to parents and their companions. Support the presence of the mother's partner. Inform the mother about the newborn's condition. Encourage free and early access of parents to the NICU. Offer guidance and support for breastfeeding. Initiate kangaroo care (skin-to-skin contact) between parents and the newborn as soon as both are available and the child shows clinical stability. Recognize and value the mother's observations of warning signs in the newborn: hypothermia,

gastroesophageal reflux, apnea, behavioral changes, and lethargy. Reduce visual and auditory stimuli. Ensure the newborn receives protective measures against stress and pain, providing greater comfort. To ensure the necessary support for the postpartum woman after childbirth during her stay in the hospital and upon her return home, to provide transportation assistance to the unit, meals during her stay in the hospital, and an adequate space for rest and recreational activities. To allow family members such as grandparents, siblings, and uncles/aunts to visit according to a pre-established schedule^{6,10,15}.

- Second Stage: This stage takes place in the Kangaroo Intermediate Care Unit (UCINCa). The newborn remains continuously with the mother, and the kangaroo position is maintained for as long as possible. By continuing the care established in the first stage, the mother will be able to recognize warning signs in her child, perform the kangaroo position more efficiently, and carry out routine care for her child in the NICU with guidance and support from the team. It is worth noting that the use of intermittent oral, intramuscular, or intravenous medications, as well as mothers who cannot breastfeed, are not contraindications for remaining in this stage. The second stage serves as pre-hospital discharge preparation. Therefore, to advance to the next stage, the mother must be confident, motivated, and well-informed; family members must be aware of the newborn's home care and committed to maintaining the position for as long as possible; and the neonate must weigh at least 1,600 g. However, it is still necessary to ensure outpatient follow-up until the weight reaches 2,500 g, with the first consultation within 48 hours of discharge and subsequent consultations at least once a week; guaranteeing care at the hospital unit at any time until discharge from the third stage⁶.
- Third stage: Once the newborn is clinically stable and receiving adequate nutritional support, the third stage begins with hospital discharge. At this point, the newborn leaves the hospital environment but continues to be monitored by professionals from the neonatal unit and the method continues at home. This involves home visits by the healthcare team to provide care, observe, and guide the mother. According to Brazil (2018), the newborn will have their first consultation within 48 hours of discharge, during which a complete physical examination will be performed, assessing growth, weight, length, and head



circumference, considering the corrected gestational age. Breastfeeding and proper latch will be evaluated. The bond between the family and the newborn will be observed. Information on immunizations and their importance will be provided. Specialized care will be offered, such as hearing, ophthalmological, and physiotherapy assessments. The family will also be offered psychological, physiotherapy, and social work support. The remaining appointments should be scheduled by the healthcare teams, with three appointments suggested in the first week, two in the second week, and then one weekly appointment until the newborn reaches a weight of 2,500 g, at which point they will be discharged from the third stage. Newborns who, after discharge from the maternity ward, show indicators of risk in their growth and development should be referred to specialized services for follow-up^{6,10}.

Nursing team assistance in applying the kangaroo method

Newborn care is a demanding task for healthcare professionals, since upon admission only limited information is available, such as weight, gestational age, and prenatal data. The team's actions must focus on the uniqueness of each child admitted. This individuality relates to touch, sleep awakening, response to antimicrobials, food acceptance, weight gain, and respiratory rhythm and control. Time and development are unique and individual, meaning that care actions may always need to be modified⁴.

The MC (Maternal and Child Care) program opens up opportunities for nursing professionals to provide care to newborns, whose role is to care for the child and their family, facilitating the best adaptation to extrauterine life and humanizing care. Nurses also need to establish ways of communicating and interacting with the families of newborns admitted to the NICU, promoting parental participation in care, guiding and encouraging physical contact with their hospitalized child. Thus, through the development of educational and care-related actions, the care process is established¹⁵.

The nurse is involved from the initial prenatal guidance for high-risk pregnancies to the admission to the NICU immediately after the newborn's birth. The father is the first to enter the NICU and has contact with the team to be informed about the newborn's health conditions, the functioning and routine of the team and the unit. During hospitalization, the nursing team encourages parental care, including participation in all activities, ensuring the family's role as an important factor in the newborn's well-being.

Newborns with more serious conditions are surrounded by care and equipment, which can be difficult for parents to accept. However, the nursing team plays an important role in overcoming this resistance, keeping parents updated on procedures and clinical progress, and reinforcing the importance of skin-to-skin contact for a favorable outcome during hospitalization^{16,17}.

The nursing team is also responsible for implementing practices to reduce levels of adverse environmental stimuli in the NICU, such as odors, lights, and noise, ensuring greater comfort for the newborn. In addition, nurses are responsible for performing procedures such as weighing, hygiene, endotracheal tube insertion and aspiration. During these procedures, vocal contact between the professional and the newborn is important, always calling them by name before and after each procedure. The nurse should also, whenever possible, facilitate skin-to-skin contact between the mother/father and the child and offer support for breastfeeding; and when another form of neonatal feeding is prescribed, wait for the parents to be present to participate in this moment. Therefore, during the first stage, the nursing professional is responsible for helping the mother overcome the stresses of the NICU environment, making this bond autonomous and helping her cope with insecurities¹⁸.

After the newborn's clinical stabilization, he or she is transferred to the kangaroo care ward, where he or she will remain with the mother, who will assume the kangaroo position for as long as possible. This stage functions as a pre-hospital discharge phase, and the nursing team should instruct the mother on possible warning signs, such as changes in skin color, respiratory pauses, regurgitation, and decreased movement. They should also have the knowledge and skill to properly position the child in the kangaroo position. The nurse and their team should allow the mother to leave the room as needed, keeping her informed of the newborn's condition in her absence¹⁶.

The team should provide guidance on how care will be carried out at home, reinforcing the maintenance of practices already implemented in the NICU. Home visits should be conducted, ensuring that the first consultation takes place within 48 hours of hospital discharge and subsequent visits once a week until the third stage of discharge. The nurse should also always be attentive to the complaints of family members, especially the mother, regarding difficulties, fears, and fatigue, helping her to develop strategies that facilitate care^{10,18}.

Despite the proven effectiveness of the MC (Management by Nursing), its implementation is not yet occurring in all NUs (Nursing Units) due to lack of infrastructure, unfamiliarity with the method, and disinterest from the nursing staff. This disinterest stems from changes in the professionals' routines and the consequent triggering of uncertainties and insecurities. Therefore, all these difficulties lead to a reduced number of services adopting it. However, for the proper implementation of the MC, it is necessary to foster a sense of benefit in the care of newborns by adhering to the methodology. This introduction should occur with adequate staff training, explaining all stages of the method, encouraging specialization in neonatology areas, and providing benefits to nursing professionals working in this sector^{11,16}.

In addition to the care that the nursing team provides to the newborn and their family, there should also be time for self-care. At some point in their work schedule,



the team should participate in relaxation activities or small exercises that reduce daily stress. These activities can take the form of workplace gymnastics, discussion groups, leisure activities, nutritional and postural guidance. However, there should also be encouragement for the team to have routine medical check-ups and examinations annually. Actions to support caregivers should also be developed, such as celebrating birthdays, achievements in exams, and commemorative dates such as International Women's Day, Mother's Day, Father's Day, Christmas, among others. These actions improve the team's development and provide motivation¹⁰.

Final Considerations

The Kangaroo Method was implemented in Brazil in the 1990s with the goal of reducing neonatal mortality, bringing numerous benefits to newborns and parents. Due to the reduction in neonatal deaths, the Kangaroo Method is experiencing rapid expansion worldwide. Therefore, every two years, professionals from around the globe working in neonatal care meet to exchange experiences gained from the Kangaroo Method and to bring improvements to their services and patients.

Based on the analysis of articles and manuals prepared by health authorities, the importance of implementing and developing the Common Breastfeeding Method (CBM) and its application to newborns admitted to NICUs became evident. The increasing introduction of the method was and is primarily responsible for increasing and

propagating the bond between the newborn and the mother and family, bringing numerous benefits to their clinical evolution and subsequent recovery. It is also inevitable to note that nursing actions in CBM are essential for its implementation and effectiveness. In this context, the main daily actions of CBM are the responsibility of the nursing team due to their importance in the care and close monitoring of the patient. These factors reinforce the need for frequent updating of technical and scientific knowledge in the care and monitoring of newborns and in the improvement of CBM in institutions that adopt it as a fundamental part of NICUs.

Therefore, in addition to professionals possessing the technical knowledge and practice necessary for the humanization of care for hospitalized newborns, it is necessary to restructure the behavior of the team and the institution's system for the frequent updating of the requirements of the Humanized Newborn Care (HNC) model. These changes are responsible and necessary for improving care for the newborn and their family and for the dissemination of HNC among nursing units. Finally, it is possible to conclude that HNC goes beyond care and assistance with scientifically proven techniques in reducing neonatal mortality and increasing the bond between the newborn and their family. It is a process that, with the participation of the nursing team, in constant training and updating, and mainly using skin-to-skin contact, leads to the humanization of care and attention to the newborn.

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