

?Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birthweight Infants? (2016), by Agustin Conde-Agudelo and José Díaz-Rossello ^[1]

By: Grayson, Claire E. Keywords: Kangaroo Mother Care ^[2] low birth weight ^[3] Agustin Agudelo ^[4] Jose Rossello ^[5]

In 2016, physician researchers Agustin Conde-Agudelo and José Díaz-Rossello published ?Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birthweight Infants,? in which they compared the effectiveness of Kangaroo Mother Care to that of traditional treatments for low birth weight newborns. Physicians began using Kangaroo Mother Care in the 1970s as a treatment for low birth weight infants. The treatment, which involves exclusive breastfeeding and skin-to-skin contact, was created to help mothers care for low birth weight infants in developing. In 2015, the World Health Organization estimated that globally, one million infants died due to complications of low birth weight, and a majority of those deaths occurred in developing countries. In their article, the authors demonstrated that Kangaroo Mother Care is just as effective as conventional medical care.

An estimated fifteen million low birth weight infants are born each year globally. An infant that is born weighing less than 2500 grams or 5.5 pounds, regardless of gestational age, is considered a low birth weight infant. Low birth weight infants are often premature, meaning that they are born before thirty-seven weeks of [gestation](#) ^[6]. Low birth weight infants are at risk for many health complications including the inability to maintain body temperature, difficulty breathing, difficulty gaining weight, long term problems with brain function, and sometimes death. Conventional medical care for low birth weight infants typically involves placing those infants in incubators to regulate their body temperature. Conventional care can also include other treatments such as the use of nasogastric tubes which allow nurses to feed infants breast milk through the infants' noses and into their stomachs. Those treatments, although effective, are expensive and not available to most infants born in developing countries.

The majority of low birth weight infants delivered each year are born in impoverished areas where there is limited access to skilled caregivers and advanced medical technology like incubators. According to the World Health Organization, physician researchers Edgar Rey Sanabria and Héctor Martínez-Gómez were the first to use Kangaroo Mother Care in Bogotá, Colombia, in 1978. Rey Sanabria and Martínez-Gómez created the treatment as an alternative method of care for low birth weight infants in developing countries where access to incubators and other traditional care for premature infants was limited. Kangaroo Mother Care refers to the position a mother carries her infant after birth, where the newborn lays across the mother's chest, skin-to-skin. The complete protocol for Kangaroo Mother Care, presented by the World Health Organization, includes training mothers to care for their low birth weight infants, the use of kangaroo position with skin-to-skin contact, exclusive breastfeeding, and early discharge from the hospital.

Since the development of the Kangaroo Mother Care protocol in the late 1970s, researchers have evaluated its effectiveness and applicability in different countries. In 2003, Conde-Agudelo and Díaz-Rossello reviewed many of those evaluations in order to determine the general effectiveness of Kangaroo Mother Care. At that time, the authors stated that studies they included in the initial review were of moderate to poor quality. Although the results showed that the use of Kangaroo Mother Care reduced negative health outcomes related to low birth weight, the authors reported that more reliable research and information was necessary to make more definitive conclusions. After 2003, many researchers from around the world conducted research about the use of Kangaroo Mother Care. In response, Conde-Agudelo and Díaz-Rossello updated their analysis in 2011, 2014, and 2016.

Conde-Agudelo and Díaz-Rossello published "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birthweight Infants" in the Cochrane Database of Systematic Reviews on 23 August 2016. Conde-Agudelo was a women's health and labor physician. As a researcher, Conde-Agudelo focused on women's health and Kangaroo Mother Care. Díaz-Rossello was a physician who researched child and newborn health. Both authors were members of an [organization](#) [7] that produces the Cochrane Database of Systematic Reviews. The database is a collection of medical research reviews in which authors summarize and evaluate the results of many research articles related to a single topic. According to the Cochrane Library, the reviews are beneficial for both researchers and medical professionals because the review authors are able to collect large amounts of data and draw conclusions based on a larger sample size. According to researchers, Cochrane Reviews are frequently updated to include new information and valued for their strict methodology and unbiased conclusions.

The article, "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birthweight Infants," is a systematic review of over twenty-one studies on the outcomes of Kangaroo Mother Care versus conventional low birth weight care. In the first section, the authors introduce the concept of Kangaroo Mother Care as a protocol that includes skin-to-skin contact between mother and infant, exclusive breastfeeding, and early discharge from the hospital along with educating mothers how to care for their low birth weight infants. The authors also state that Kangaroo Mother Care, a more simple and affordable treatment for low birth weight infants, can be used as an alternative to expensive traditional care such as incubators. The methods for the review are based on the Cochrane Neonatal Review strategy and include searching many different databases for applicable studies. The methods section is followed by Conde-Agudelo and Díaz-Rossello's study results that show decreased infant risk of mortality, infection, and hypothermia, and increased rate of growth, breastfeeding, and infant attachment associated with Kangaroo Mother Care. In the final section, the authors affirm their support for the use of Kangaroo Mother Care as an alternative method of care.

Conde-Agudelo and Díaz-Rossello begin their article by defining a low birth weight infant and Kangaroo Mother Care. They introduce the risks associated with low birth weight, including decreased survival rates and slowed development. Citing the high rate of mortality and long term consequences caused by complications related to low birth weight, the authors argue that evaluating different treatments for low birth weight is important. They discuss the conventional treatments used to care for most low birth weight infants born in hospitals. Researchers have already demonstrated the effectiveness of conventional care in increasing survival rates in low birth weight infants. The authors emphasize that the expense and need for skilled personnel that make many of those conventional treatments inaccessible in

developing countries. The authors briefly discuss the history of Kangaroo Mother Care beginning with Rey Sanabria, who sought an alternative, more affordable treatment for low birth weight infants. The authors describe Rey Sanabria's Kangaroo Mother Care as skin-to-skin contact with an infant firmly attached vertically between the mother's breasts.

Next, Conde-Agudelo and Díaz-Rossello outline an argument that Kangaroo Mother Care is comparable to conventional newborn care. They describe a mother as a biological incubator who can regulate her infant's body temperature and provide essential nutrients through breastfeeding. The authors state that one of the goals of Kangaroo Mother Care is to empower mothers to care for their infants at home, once they are stable for discharge. Before describing the methods of their review, the authors state that their objective is to determine both the beneficial and adverse effects of using Kangaroo Mother Care.

In their methods section, Conde-Agudelo and Díaz-Rossello explain how they collected and analyzed data from the Cochrane Neonatal Review strategy. The authors selected data that satisfied several conditions. First, they identified trials that compared Kangaroo Mother Care to conventional neonatal care. Those trials provided evidence for the use of Kangaroo Mother Care as an alternative method. They also selected trials that compared the effects of initiating Kangaroo Mother Care before or after a health care provider stabilized the infant. Those trials evaluated the effectiveness of Kangaroo Mother Care for stabilizing low birth weight infants, rather than as a method of care after using conventional methods to stabilize infants. In June 2016, they reviewed twenty-one trials, which included over 3042 infants. In their article, Conde-Agudelo and Díaz-Rossello include a description of each study they selected for the review and their analysis of potential bias present in the studies.

In their results section, the authors show that Kangaroo Mother Care significantly improved health outcomes for low birth weight infants. They state that Kangaroo Mother Care decreased common consequences of low birth weight such as severe infection called sepsis, low body temperature called hypothermia, lower respiratory tract disease, and other illnesses. The authors claim that a decrease in those complications also led to a decline in infant deaths related to low birth weight. The review also demonstrated that Kangaroo Mother Care increased growth rate, success of breastfeeding at discharge, and infant-mother bonding and attachment. According to health professionals, breastfeeding at discharge is important because it is one of the only ways that an infant is able to get vital nutrients and immune benefits. In their article, Conde-Agudelo and Díaz-Rossello emphasize that, at a one year infant check-up, there were no significant differences in neurologic and developmental outcomes between the infants who were treated with conventional care and infants who were treated with Kangaroo Mother Care.

The authors conclude that the review is supportive of Kangaroo Mother Care for low birth weight infants as an alternative to conventional care. Conde-Agudelo and Díaz-Rossello highlight the importance of Kangaroo Mother Care in developing countries where incubators are often unavailable. However, they note that there is increasing evidence for the use of Kangaroo Mother Care in developed countries as well. They state that Kangaroo Mother Care is comparative to conventional care, but due to the low cost and increased infant-mother bonding benefits, it may be more effective overall.

In their 2016 article, "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birthweight Infants," Conde-Agudelo and Díaz-Rossello found that Kangaroo Mother Care is an effective alternative to conventional low birth weight care. That conclusion was the same

as the conclusions from their earlier examinations of the treatment. Kangaroo Mother Care requires few technologies and can potentially be implemented by caregivers who are not medically trained. Since the article's publication, researchers have started to investigate using Kangaroo Mother Care as a way to reduce pain in infants being treated in neonatal intensive care units. Conde-Agudelo and Díaz-Rossello's conclusions were used in the creation of the World Health Organization guidelines for Kangaroo Mother Care and, as of 2018, their most current review article has been cited by many other researchers studying Kangaroo Mother Care.

Sources

1. Cochrane Library. "Cochrane Library." Wiley. <http://www.wiley.com/WileyCDA/Brand/id-6.html?category=For%2BWorking> [8] (Accessed September 27, 2017).
2. Conde-Agudelo, Agustin, José Díaz-Rossello, and José Belizán. "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birth [Weight](#) [9] Infants." *The Cochrane Library* (2000).
3. Conde-Agudelo, Agustin, José Díaz-Rossello, and José Belizán. "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birth [Weight](#) [9] Infants." *The Cochrane Library* (2003).
4. Conde-Agudelo, Agustin, José Belizán, and José Díaz-Rossello. "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birth [Weight](#) [9] Infants." *The Cochrane Library* (2011).
5. Conde-Agudelo, Agustin, and José Díaz-Rossello. "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birth [Weight](#) [9] Infants." *The Cochrane Library* (2014).
6. Conde-Agudelo, Agustin, and José Díaz-Rossello. "Kangaroo Mother Care to Reduce Morbidity and Mortality in Low Birth [Weight](#) [9] Infants." *The Cochrane Library* (2016).
7. Department of Reproductive Health and Research. *Kangaroo Mother Care: A Practical Guide*. Geneva: World Health Organization, 2003. <http://apps.who.int/iris/bitstream/10665/42587/1/9241590351.pdf> [10] (Accessed March 12, 2018).
8. Greydanus, Donald E., and Joav Merrick. "Newborn Care: What We Can Learn from the Kangaroo Mother." *Frontiers in Public Health* 2 (2014): 96. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4109615/#B8> [11] (Accessed March 13, 2018).
9. Stanford Children's Health. "Low Birth [Weight](#) [9]." Stanford Children's Health Lucile Packard Children's Hospital Stanford. <http://www.stanfordchildrens.org/en/topic/default?id=low-birthweight-90-P02382> [12] (Accessed September 15, 2017).
10. Rey Sanabria, E., and Héctor Martínez-Gómez. "Manejo racional del niño prematuro." [Rational handling of the premature baby]. *Curso de Medicina Fetal* (1983): 23-25.
11. UC Davis Health, Public Affairs and Marketing. "The Importance of Infant Bonding - UC Davis Medical Center - UC Davis Health System." UC Davis Health. http://www.ucdmc.ucdavis.edu/medicalcenter/healthtips/20100114_infant-bonding.html [13] (Accessed September 27, 2017).

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Subject

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Publisher

Arizona State University. School of Life Sciences. Center for Biology and Society. Embryo Project Encyclopedia.

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Format

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Last Modified

Wednesday, July 4, 2018 - 04:40

DC Date

2018-05-25

DC Date Accessioned

Monday, June 25, 2018 - 22:05

DC Date Available

Monday, June 25, 2018 - 22:05

DC Date Created

2018-06-25

DC Date Created Standard

Friday, May 25, 2018 - 07:00

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Arizona 85287, United States

Source URL: <https://embryo.asu.edu/pages/kangaroo-mother-care-reduce-morbidity-and-mortality-low-birthweight-infants-2016-agustin-conde>

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