



A Test of Kangaroo Care on Preterm Infant Breastfeeding

Kristin P. Tully, Diane Holditch-Davis, Rosemary C. White-Traut, Richard David, T. Michael O'Shea, and Victoria Geraldo

Correspondence

Diane Holditch-Davis, PhD,
RN, FAAN, School of
Nursing, Duke University,
DUMC 3322, 307 Trent
Drive, Durham, NC 27710.
diane.hd@dm.duke.edu

Keywords

infant feeding
NICU
kangaroo care
massage
mothers
neonatal intensive care unit
preterm infants

ABSTRACT

Objective: To test the effects of kangaroo care (KC) on breastfeeding outcomes in preterm infants compared with two control groups and to explore whether maternal–infant characteristics and the mother's choice to use KC were related to breastfeeding measures.

Design: Secondary analysis of a multisite, stratified, randomized three-arm trial. The treatment groups used KC, auditory–tactile–visual–vestibular (ATVV) intervention, or received preterm infant care information.

Setting: Neonatal intensive care units from 4 hospitals in the United States from 2006 to 2011.

Participants: Racially diverse mothers ($N = 231$) and their preterm infants born weighing less than 1,750 g.

Methods: Mothers and their infants were enrolled once the infants were no longer critically ill, weighed at least 1,000 g, and could be safely held outside the incubator by parents. Participants were instructed by study nurses; those allocated to the KC or ATVV groups were asked to engage in these interactions with their infants for a minimum of 3 times a week in the hospital and at home until their infants reached age 2 months adjusted for prematurity.

Results: Feeding at the breast during hospitalization, the duration of postdischarge breastfeeding, and breastfeeding exclusivity after hospital discharge did not differ statistically among the treatment groups. Regardless of group assignment, married, older, and more educated women were more likely to feed at the breast during hospitalization. Mothers who practiced KC, regardless of randomly allocated group, were more likely to provide their milk than those who did not practice KC. Breastfeeding duration was greatest among more educated women.

Conclusion: As implemented in this study, assignment to the KC group did not appear to influence the measured breastfeeding outcomes.

JOGNN, 45, 45–61; 2016. <http://dx.doi.org/10.1016/j.jogn.2015.10.004>

Accepted September 2015

Kristin P. Tully, PhD, is a research associate at the Center for Developmental Science and Carolina Global Breastfeeding Institute, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Diane Holditch-Davis, PhD, RN, FAAN, is the Marcus E. Hobbs Distinguished Professor of Nursing in the School of Nursing, Duke University, Durham, NC.

(Continued)

The authors report no conflict of interest or relevant financial relationships.



AWHONN

Human milk is internationally recognized as the optimal nutrition for infants because of the plethora of benefits for infants and young children (American Academy of Pediatrics, 2012; Horta & Victora, 2013). Breastfeeding is particularly important for preterm infants, who have high rates of morbidity and mortality (Hamilton, Hoyert, Martin, Strobino, & Guyer, 2013). An exclusive human milk diet for preterm infants (mother's milk and donor milk) is associated with shorter length of stay in the NICU and lower hospitalization costs than a partial human milk diet (Johnson, Patel, Bigger, Engstrom, & Meier, 2014; Ganapathy, Hay, & Kim, 2012). Preterm infants with more than 50% breastmilk in enteral (tube) feedings at the time of feeding advancement have faster transitions to full enteral feedings than other preterm infants (Sisk, Lovelady, Gruber, Dillard, & O'Shea, 2008). More rapid feeding advancement of infants born at very low birth weight is protective

against late-onset sepsis and other health problems (Härtel et al., 2009; Krishnamurthy, Gupta, Debnath, & Gomber, 2010). Breastfeeding also promotes cognitive and motor development (Pinelli, Saigal, & Atkinson, 2003; Vohr et al., 2007) and is associated with a lowered incidence of necrotizing enterocolitis (Quigley & McGuire, 2014), which is a leading cause of death in preterm infants (Berrington, Heam, Bythell, Wright, & Embleton, 2012). However, only a few randomized trials of the effects of interventions administered by the mother in neonatal intensive care units (NICUs) on breastfeeding have been published. Therefore, the purpose of this secondary analysis of a randomized controlled trial was to test the effects of kangaroo care (KC) on measures of preterm infant breastfeeding.

A better understanding of factors that promote breastfeeding among mother–preterm infant

Limited randomized study of maternally administered interventions for infants in NICUs on breastfeeding has occurred.

dyads is needed because lactation also has health benefits for mothers, including a lower risk of cancer, hypertension, and myocardial infarction (Bartick et al., 2013; Stuebe et al., 2009, 2011). Further, many women report emotional closeness to their preterm infants when providing breastmilk (Sweet, 2008). Mothers described providing their milk to preterm infants as worthwhile because of the health benefits for infants (Miracle, Meier, & Bennett, 2004) and reported enhanced satisfaction with their role in infant care (Fenwick, Barclay, & Schmied, 2008).

Breastmilk expression by mothers of preterm infant is cost effective (Jeiger, Meier, Engstrom, & McBridge, 2010) and achievable (Hartmann, Cregan, Ramsay, Simmer, & Kent, 2003; Zachariassen et al., 2010) but challenging (Lee, Lee, & Kuo, 2009). Lactation success in this population varies based on prenatal infant feeding plans (Sisk, Lovelady, Dillard, Gruber, & O'Shea, 2009), previous breastfeeding experience (M. M. Smith, Durkin, Hinton, Bellinger, & Kuhn, 2003), socioeconomic status (greater success among those not eligible for Medicaid), race (less success among Black women than others; Pineda, 2011; M. M. Smith et al., 2003), and hospital (Davanzo, Ronfani, Brovedani, & Demarini, 2009). A number of practices are effective for promoting breastfeeding in NICUs (Renfrew et al., 2010). Breastfeeding preterm infants requires individualized support (Callen, Pinelli, Atkinson, & Saigal, 2005; Sisk, Quandt, Parson, & Tucker, 2010) that addresses maternal emotional needs, mother–infant interactions, infant behavioral capabilities, infant oral feeding readiness, and changes in these factors over time (White-Traut & Norr, 2009). Lactation counseling is one such support and has not been found to increase stress in mothers of preterm infants, including mothers who originally intended to formula-feed (Sisk, Lovelady, Dillard, & Gruber, 2006). Further work is needed, however, to create an evidence base for enabling breastmilk feedings in NICUs (Meier, Patel, Bigger, Rossman, & Engstrom, 2013).

Kangaroo care involves holding the undressed infant between the mother's breasts in skin-to-skin contact; it is an intervention that has sometimes been found to promote breastfeeding (Moore,

Anderson, Bergman, & Dowswell, 2012), but to date the evidence is mixed. For the infant, the positive effect is probably due to the ability to smell breastmilk, relax, organize body movements, and reach the nipple (Bystrova et al., 2003; Widström et al., 2011); in addition, KC promotes better temperature regulation and less crying than when infants are left in incubators (Christensson et al., 1992). For the mother, physical contact around the breast as a part of KC may increase oxytocin levels (Winberg, 2005), promoting lactation and emotional connectedness with the infant (Uvnäs-Moberg, 1998).

In surveys conducted in the United States, investigators found that 70% to 80% of NICUs practice KC at least occasionally (Engler et al., 2002; Franck, Bernal, & Gale, 2002). Kangaroo care has been recommended as a step to promote breastfeeding for preterm infants (Spatz, 2004). However, Roberts, Paynter, and McEwan (2000) found that infants who received KC as part of a randomized trial did not experience longer breastfeeding duration than dressed infants who were held while swaddled.

The purpose of this secondary analysis, therefore, was to explore the effect of KC on breastfeeding outcomes (feeding at the breast during hospitalization, the duration of postdischarge breastfeeding, and breastfeeding exclusivity after hospital discharge) in two control groups of mothers: one group received auditory–tactile–visual–vestibular (ATVV) intervention, and the other received instruction on home preterm infant care. The developmental science perspective on the mother–infant dyad (Miles & Holditch-Davis, 2003) was the theoretical framework for this study. In this framework, breastfeeding practices are outcomes of the mother–infant system that involve reciprocal interactions between mother and infant behaviors and characteristics (Thoman, Acebo, & Becker, 1983). Kangaroo care has the potential to alter the mother–infant dyad by positively affecting mother- and infant-relevant variables, and thus KC might result in better breastfeeding outcomes.

Methods

We conducted a secondary analysis of a randomized controlled trial that was conducted from 2006 to 2011 in four hospitals, two in Illinois and two in North Carolina. Information on the primary study outcomes has been published: infant behaviors during the KC or ATVV sessions (White-Traut, Wink, Minehart, & Holditch-Davis, 2012),

Rosemary C. White-Traut, PhD, RN, FAAN, is Director of Nursing Research at the Children's Hospital of Milwaukee and a professor emerita in the College of Nursing, University of Illinois at Chicago, Chicago, IL.

Richard David, MD, is a professor in the Department of Pediatrics, College of Medicine, University of Illinois at Chicago and Stroger Hospital, Chicago, IL.

T. Michael O'Shea, MD, is a professor of pediatrics at the University of North Carolina at Chapel Hill, Chapel Hill, NC.

Victoria Geraldo, MD, is a neonatologist at Sinai Children's Hospital and a lecturer at Chicago Medical School, Rosalind Franklin University, Chicago, IL.

Download English Version:

<https://daneshyari.com/en/article/2632331>

Download Persian Version:

<https://daneshyari.com/article/2632331>

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