

Abstract

Title: *Understanding the Relationship between Kangaroo Care and Neurodevelopment in Infants with Congenital Heart Disease: A Systematic Review*

Background: Infants with congenital heart disease (CHD) are predisposed to significant neurodevelopmental delays related to disrupted parent-infant bonding, stress caused by invasive cardiac interventions, and overstimulating environments, such as the cardiac intensive care unit. Early promotion of neurodevelopment in infants with CHD is essential to support their overall health and quality of life, and to diminish the extent of neurocognitive delays. However, there is limited research examining the relationship between neurodevelopment in infants with CHD and the benefits of kangaroo care.

Objective: The purpose of the systematic review was to evaluate the effectiveness of kangaroo care and touch on optimal neurodevelopment outcomes for infants with CHD.

Methods: A systematic literature review was conducted using the databases Ovid, MEDLINE, and PubMed to identify eligible peer-reviewed, qualitative and quantitative research studies. Studies were systematically retrieved utilizing a search strategy with the following key words: “congenital heart defects or cardiac defects or heart defects or heart diseases,” “kangaroo care or skin-to-skin,” and “neurocognitive development or development or neurodevelopment or cognitive development or brain development or neurodevelopmental or psychological stress.” Using specific inclusion and exclusion criteria for studies based on study type, relevance, population, and intervention, ten full-text articles were selected from the results.

Results: Following a rigorous analysis and appraisal of the 10 articles, seven articles were included in the final review. The systematic review demonstrated that kangaroo care and touch interventions promoted increased salivary cortisol levels and comfort, decreased pain scores, and stable physiologic responses. All these factors influenced improved neurodevelopment long-term outcomes. In addition, research indicated that kangaroo care is a safe intervention among infants with CHD.

Conclusion: Research demonstrated that kangaroo care is a safe intervention to implement with infants with CHD and may contribute to improved long-term neurodevelopment outcomes.

Keywords: Congenital heart defect, kangaroo care, skin-to-skin, touch, neurodevelopment