NU 395

Sacred Heart University

Davis and Henley College of Nursing

Transition into Professional Nursing Practice

Student Project Topic Outline

Name: Kaleigh Schofield Date: 2/9/2024

Title of Project Topic: Neuroprotection Through Positioning for Neonates in the Critical Care Setting

Brief Description of Clinical Project: When infants are born prematurely, it is important to attempt to mimic the mother's womb as closely as possible. The environment of a mother's womb and positioning of the infant in utero are integral in the development, especially neurological, of a premature infant. With the new implementation of dandelion positioners in the neonatal intensive care unit, it is important to emphasize the reason why positioners are helpful for proper neurodevelopment of premature infants.

Project Outline

Introduction/Background of the Project: On the neonatal intensive care unit at Greenwich, new positioners, known as the dandelions, allow for nurses to reposition patients in an easier manner. Most nurses had expressed that they were used to using rolled blankets or towels as a way to position in the past; therefore, the nurses expressed some confusion on the importance of these new positioners and how they can provide better support for neurological development. It is important to educate the unit nurses on the importance of positioning with the dandelion in order to support the infants neurologically as well as physically.

Evidence-Based:

1. The Effects of Alternative Positioning on Preterm Infants in the Neonatal Intensive Care Unit is a randomized, blinded clinical trial that investigates the effects of a new positioner compared to a traditional positioning method used for preterm infants. The study discusses the importance of positioning to neurological development in preterm infants, specifically positioning in physiological flexion, which is flexion of the shoulders, hips, and knees, scapular protraction, and posterior pelvic tilt. Physiological flexion promotes proper joint alignment and symmetry, supports neuromuscular development, and promotes self-soothing and behavioral organization.
2. Does Therapeutic Positioning of Preterm Infants Impact Upon Optimal Health Outcomes? is a literature review. A preterm infant struggles to organize environmental stimuli as this refinement has not taken place and the infant may show signs of neurological abnormality due to overwhelming stressors in the NNU, but using positioners can help avoid these neurological abnormalities.
3. The effects of a postural supporting “New Nesting Device” on early neurobehavioral development of premature infants is a meta analysis that aims to compare the effects of neurobehavioral development outcomes between a “New Nesting Device” and a “Traditional-Nest” posture supporting interventions, for premature infants. According to Tang, poorly positioning of premature infants can increase risks of apnea and neurobehavioral stresses. It can also cause intracranial hemorrhage due to inappropriate handling of these vulnerable preterm infants at early postnatal life

Purpose: The purpose of this project is to improve knowledge in nursing staff regarding the importance of neuroprotection and proper development through positioning with dandelions.

Project Format: Large poster/powerpoint presentation with pamphlets

Project Implementation: Present the powerpoint/poster to nursing staff on the unit and pamphlets will be left on the unit for the nurses to follow along and use in the future.

References:

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Wang, Y., Zhao, T., Zhang, Y., Li, S., & Cong, X. (2021). Positive Effects of Kangaroo Mother Care on Long-Term Breastfeeding Rates, Growth, and Neurodevelopment in Preterm Infants. In Breastfeeding Medicine (Vol. 16, Issue 4, pp. 282–291). Mary Ann Liebert Inc. https://doi.org/10.1089/bfm.2020.0358

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Tang, X., Bei, F., Sha, S., & Qin, Y. (2021). The effects of a postural supporting “New Nesting Device” on early neurobehavioral development of premature infants. In Journal of Neonatal Nursing (Vol. 27, Issue 3, pp. 191–199). Elsevier BV. https://doi.org/10.1016/j.jnn.2020.09.006