

11-2023

Occupational Therapy Feeding Interventions in the Neonatal Intensive Care Unit: A Systematic Review

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Recommended Citation

Boehm, Karly; Brechbill, Lindsey; Cedillo, Johana; Mengler, Sara; and Thomas, Allyson, "Occupational Therapy Feeding Interventions in the Neonatal Intensive Care Unit: A Systematic Review" (2023). *Student Systematic Reviews: Occupational Therapy*. 11.

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TITLE: Occupational Therapy Feeding Interventions in the Neonatal Intensive Care Unit: A Systematic Review

PURPOSE: In the neonatal intensive care unit (NICU), premature infants confront numerous health challenges, especially in the context of feeding. Approximately 80% of infants born prematurely receiving care in the NICU have difficulty during oral feeding (Pineda et al., 2020). Oral motor feeding difficulties during prolonged NICU stays can have lasting challenges for the child and family (Smith et al., 2023). These impacts include low birth weight, malnutrition, physiological and neurological deficits as well as financial and emotional burdens to families and society (Niknjad et al., 2012; Smith et al., 2023). The purpose of this systematic review was to describe which occupational therapy interventions are effective to address feeding difficulties for infants in the NICU.

DESIGN: We performed a systematic review of literature published in peer-reviewed journals that addressed occupational therapy for infants in the NICU with feeding difficulties. Articles were included in this study if they were written in English, published between 2000-2023, and were level I, II, or III evidence.

METHOD: Titles and abstracts of 153 articles from PubMed, CINAHL, and Embase were reviewed, of which 20 were retrieved for full text review and five met inclusion criteria. U.S. Preventative Services Task Force levels of certainty and grade definitions were used to describe the strength of evidence.

RESULTS: Three themes emerged: oral motor stimulation, swaddling, and parent education. Oral motor stimulation improved oral intake and decreased the transition time from tube to bottle feeding. Oral motor stimulation had strong strength of evidence from three level I articles. Swaddling showed positive improvements in feeding quality, engagement, and physiological stability for NICU infants during bottle feeding. One level I article provided low strength of evidence for swaddling. Parent education about oral motor stimulation alone was not an effective method to increase the duration of breastfeeding. This was supported by one level I article, which provided a moderate strength of evidence for parent education.

CONCLUSION: Based on the literature, there is strong evidence to support the use of oral motor stimulation for infants in the NICU to improve feeding outcomes. Swaddling can be considered on a case-by-case basis to improve outcomes related to feeding difficulties in infants while they are bottle feeding. There is no indication that parent education alone improves feeding outcomes and should be considered an option on a case-by-case basis. Additional research is needed to determine the longitudinal effects of feeding interventions by OTs in the NICU.

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