

Effect of Oral Stimulation on Feeding Progression in Preterm Infants

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PURPOSE: To assess the safety and efficacy of a newly developed prefeeding oral stimulation intervention (Beckman Oral Motor Intervention–Premature Infant) on feeding progression and length of stay on preterm infants younger than 30 weeks PMA.

PARTICIPANTS: A convenience sample of 19 clinically stable preterm infants born between 26 and 29 weeks PMA.

DESIGN: Double-blind, block randomized, experimental design.

METHODS: At 29 weeks, the experimental group received a 5-minute oral stimulation intervention once per day for 7 consecutive days. The control group received a "sham" condition.

MAIN OUTCOME MEASURES: The transition from the first oral (bottle) feeding to total oral feedings and the length of hospital stay were compared between groups. Infants were monitored for adverse physiological (electrocardiogram [ECG]/ SaO_2) and behavioral effects throughout intervention.

PRINCIPAL RESULTS: The experimental group transitioned to total oral feedings 5 days sooner than did the controls ($P < .05$) and its members were discharged 2.6 days sooner than the controls ($P = .54$). The intervention was well tolerated and did not result in any adverse physiological or behavioral effects.

CONCLUSIONS: The original 15-minute Beckman Oral-Motor Intervention was modified to a Premature Infant version (BOMI-PI) for this study, so it could be safely and practically used on 29-week PMA infants. The original intervention had never been used on infants younger than 30 weeks PMA. An early feeding protocol at the study site challenges the usual standard of 32 to 34 weeks for initiation of oral feedings and has led to earlier attainment of oral feedings. This pilot study illustrates that even with both groups experiencing early initiation of feedings, the addition of this oral stimulation intervention reduced the time to reach total oral feedings by 5 days when compared with that of controls. This supports the important distinction between sucking experience from early feeding and the more complex oral stimulation program of training the oral motor structures to respond functionally to pressure, movement, range, and strength and to control for lips, cheeks, jaw, and tongue. Inability to feed orally is the most frequent reason for delays in hospital discharge. With over half a million preterm infants born in the United States per year costing more than \$20 billion, decreasing length of hospital stay by 3 days would save \$2 billion annually. A need exists for evidence-based interventions to facilitate successful feeding, thus shortening length of stay and reducing costs. This pilot study supports the safety of the new BOMI-PI on 29-week PMA infants and reveals trends supporting further study.

KEY WORDS: Beckman Oral Motor Intervention–Premature Infant, feeding progression, length of stay, oral stimulation, preterm infant

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