

Title of Abstract:

Growth and Oral Feeding Evaluation of Infants Who Received Patterned Oral Somatosensory Stimulation in NICU

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Abstract Description:

Background:

Our multicenter randomized clinical trial (RCT) showed patterned oral somatosensory stimulation in preterm infants decreased transition time to full oral feeds and shortened length of stay in the NICU. However, the long-term impact of this new therapy remains unknown.

Objective:

To evaluate growth and oral feeding ability of the infants who participated in the previous RCT at their first High Risk Infant Follow-up (HRIF) visit.

Methods:

The 86 infants (44 control and 42 experimental) who participated in the RCT (n=210) at our center qualified for this study. Of the 86 study infants, 70 (38 control and 32 experimental) were evaluated by our HRIF program. Length, weight, and head circumference were measured at discharge and the first HRIF visit at 4-12 months of corrected gestational age. Percentiles of anthropometric measurements were derived from Fenton 2013 and World Health Organization growth curve data tables. Data was collected prospectively. Mann-Whitney U test was used for statistical analysis. Infant feeding abilities were assessed by a physical therapist who diagnosed the infants as "normal" if they demonstrated age appropriate feeding behavior or as "suspect" if they presented with lower sucking and swallowing abilities.

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Results:

At discharge the median percentiles of length, weight, and head circumference were not significantly different between the control and experimental groups. By the first HRIF visit the experimental group had a significant larger median length percentile compared to the control group (3.3% vs. 0.7%, $p=0.024$). The percentiles of median weight (12.8% vs. 8.0%, $p= 0.11$) and median head circumference (20.2% vs. 17.3%, $p= 0.47$) at first HRIF visit were not significantly different between the groups. Two infants in the control group were suspected for feeding issues. The infants continued to have feeding concerns during their following pediatric visits and have shown failure to thrive. One of these infants was later diagnosed with Noonan's syndrome. No infants from the experimental group had feeding concerns.

Conclusions:

The study cohort had a very low incident of feeding problems at first HRIF evaluation and had poor growth overall, particularly in length. However, infants that received patterned oral somatosensory stimulation had better growth in length at their first HRIF visit.

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